

**HONOURABLE MENTION:**  
**INTERNATIONAL FOOD EXHIBITION, AGRICULTURAL HALL, LONDON, OCTOBER, 1880.**  
**GOLD MEDAL, SOCIETY OF ARTS, PARIS, 1884.**

# TO AERATED WATER MANUFACTURERS.

Ginger Ale, Ginger Beer, and Lemonade, made from the following Essences, are unrivalled for their exquisitely fine flavour, and richness of aroma.

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ARE GUARANTEED TO BE THE FINEST IN THE MARKET.

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A Pure Essence of the Finest Ginger, perfectly free from Capsicum. Highly adapted for the manufacture of Transparent Aerated Waters, and for all Dietetic, Medicinal, and Pharmaceutical purposes. Trade Price, 5s. per lb.; 12 lbs. and upwards, 4s. 6d. per lb. Extra Fine and Strong, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

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Specially prepared for the manufacture of the very Finest Ginger Ale made, is an addition of Vanilla, Lemon, and other flavours to the above. It imparts, with the exquisite Ginger Aroma of the above-mentioned Essence, a peculiarly fine fruity flavour, combined with the fullest amount of fragrance and pungency. Trade Price, 5s. 6d. per lb.; 12 lbs. and upwards, 5s. Extra Fine and Strong, 6s. per lb.; 12 lbs. and upwards, 5s. 6d. Quantity required, five fluid ozs. to each gallon of Syrup, making 106 10-oz. Bottles.

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A magnificent Preparation, perfectly soluble, and makes the finest Lemonade obtainable. Trade Price, 8s. 6d. per lb.; 12 lbs. and upwards, 8s. "Added in the proportion of one fluid oz. to each gallon of Syrup, the Soluble Essence imparts the most delicious flavour of the Lemon."—*The Chemist's Journal*.

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The difference between preparations made from the above Essences and those made from the numerous spurious imitations of the above, bearing the name of Soluble Essences, is most marked, and no manufacturer using the latter can compete with one using Hay's Preparations, as is universally known. The greatest care is used in packing for Export.



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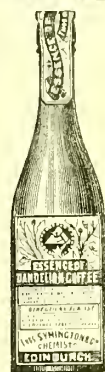
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# MAY, ROBERTS & CO.,

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TEMPORARY ADDRESS DURING REBUILDING OF PREMISES, 9 MOOR LANE, E.C.

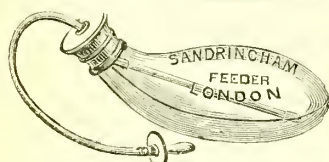
TELEGRAPHIC ADDRESS—"MOAB LONDON."

CATALOGUE OF DRUGGISTS' SUNDRIES AND PATENT MEDICINES OUT OF PRINT AT PRESENT.

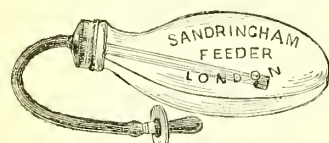
**CARRIAGE ON SUNDRIES.**—Since 1877 we have allowed 5 per cent. discount on orders for £5 worth of "SUNDRIES" in lieu of Carriage. By this arrangement our Friends are enabled to have enclosures sent with our goods, which they were unable to do when we paid Carriage.

**NO TRAVELLERS EMPLOYED — BUYERS ARE THEREFORE SPARED THEIR EXPENSES.**  
**COMPARE OUR PRICES.**

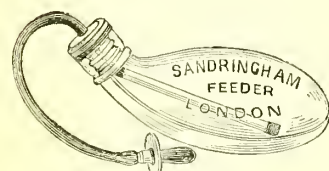
### REDUCED PRICES FOR FEEDING BOTTLES.



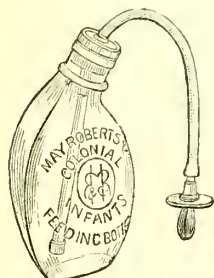
"Sandringham." Earthenware Tops.



"Sandringham." Metal Screw Caps.



"Sandringham." Screw Glass Stoppers.



"Colonial." Earthenware or Wood Tops.

#### **Sandringham (1s.) — WHITE, Earthenware Tops —**

With White Fittings, each in box, two brushes .. per doz.	s. d. 6 0
With Black Fittings, each in box, two brushes .. per doz.	6 6
Spare White Fittings ..	3 4
Spare Black Fittings ..	3 10
Spare Bottles .....	1 9

#### **Sandringham (1s.) — WHITE, Screw Glass Stoppers —**

With White Fittings, each in box, two brushes .. per doz.	s. d. 6 0
With Black Fittings, each in box, two brushes .. per doz.	6 6
Spare White Fittings ..	3 4
Spare Black Fittings ..	3 10
Spare Bottles .....	2 0

#### **Sandringham (1s.) — WHITE, Screw Metal Caps, Nickel plated —**

With White Fittings, each in box, two brushes .. per doz.	s. d. 7 0
With Black Fittings, each in box, two brushes .. per doz.	7 6
Spare White Fittings ..	4 0
Spare Black Fittings ..	4 6
Spare Bottles .....	2 0

#### **Sandringham (2s.) — WHITE, Gilt Porcelain Tops —**

With Black Fittings and Spare Glass Tube, Shield and Teat, each in box, two brushes .. per doz.	s. d. 11 6
Spare Black Fittings ..	5 6
Spare Bottles .....	2 0

#### **Sandringham (3s.) — WHITE, Gilt Porcelain Tops and Cut Glass Stopper —**

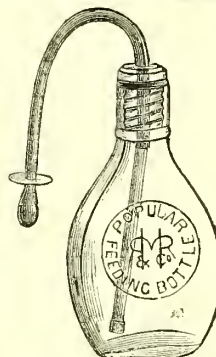
With two sets of Brown Fittings, each in box, two s. d. brushes .. per doz.	19 0
Spare Brown Fittings ..	7 3
Spare Bottles .....	7 3

#### **Colonial (6d.) — GREEN, Boxwood or Earthenware Tops —**

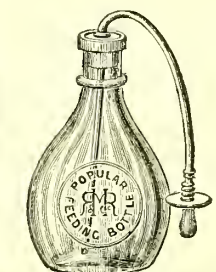
With White Fittings, each in box .. per doz.	s. d. 2 10
With Black Fittings, each in box .. per doz.	3 1
With White Fittings, 1 dozen in box .. per doz.	2 4
With Black Fittings, 1 dozen in box .. per doz.	2 7
If with White instead of Green Bottles .. per doz. 2d. extra	
Spare White Fittings per doz.	1 4
Spare Black Fittings ..	1 7
Spare Green Bottles ..	1 0
Spare White Bottles ..	1 2

#### **Colonial (6d.) — GREEN, Screw Glass Stoppers —**

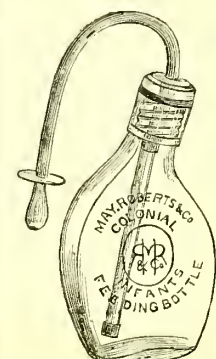
With White Fittings, each in box .. per doz.	s. d. 3 6
With Black Fittings, each in box .. per doz.	3 9
With White Fittings, 1 dozen in box .. per doz.	3 0
With Black Fittings, 1 dozen in box .. per doz.	3 3
Spare White Fittings ..	1 6
Spare Black Fittings ..	1 9
Spare Bottles .....	1 9



"Popular." Screw Glass Stoppers.



"Popular." Earthenware or Wood Tops.



"Colonial." Screw Glass Stopper.

#### **Popular (6d.) — GREEN, Boxwood or Earthenware Tops —**

With White Fittings, each in box .. per doz.	s. d. 2 10
With Black Fittings, each in box .. per doz.	3 1
With White Fittings, 1 dozen in box .. per doz.	2 4
With Black Fittings, 1 dozen in box .. per doz.	2 7
If with White instead of Green Bottles .. per doz. 2d. extra	
Spare White Fittings per doz.	1 4
Spare Black Fittings ..	1 7
Spare Green Bottles ..	1 0
Spare White Bottles ..	1 2

#### **Popular (6d.) — GREEN, Screw Glass Stoppers —**

With White Fittings, each in box .. per doz.	s. d. 3 6
With Black Fittings, each in box .. per doz.	3 9
With White Fittings, 1 dozen in box .. per doz.	3 0
With Black Fittings, 1 dozen in box .. per doz.	3 3
Spare White Fittings ..	1 6
Spare Black Fittings ..	1 9
Spare Bottles .....	1 9

#### **Popular (1s.) — WHITE, Earthenware Tops —**

With White Fittings, each in box, two brushes .. per doz.	s. d. 4 6
With Black Fittings, each in box, two brushes .. per doz.	5 0
Spare White Fittings ..	2 6
Spare Black Fittings ..	3 0
Spare Bottles .....	1 2

#### **Popular (1s.) — WHITE, Screw Glass Stoppers —**

With White Fittings, each in box, two brushes .. per doz.	s. d. 4 6
With Black Fittings, each in box, two brushes .. per doz.	5 0
Spare White Fittings ..	2 6
Spare Black Fittings ..	3 0
Spare Bottles .....	1 9

#### **Colonial (1s.) — WHITE, Earthenware Tops —**

With White Fittings, each in box, two brushes .. per doz.	s. d. 4 6
With Black Fittings, each in box, two brushes .. per doz.	5 0
Spare White Fittings ..	2 6
Spare Black Fittings ..	3 0
Spare Bottles .....	1 2

#### **Colonial (1s.) — WHITE, Screw Glass Stoppers —**

With White Fittings, each in box, two brushes .. per doz.	s. d. 4 6
With Black Fittings, each in box, two brushes .. per doz.	5 0
Spare White Fittings ..	2 6
Spare Black Fittings ..	3 0
Spare Bottles .....	1 9



# EXCHANGE COLUMN.

**TERMS.**—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word. If name and address are not included, one penny per word must be paid.

**DEPOSIT OF MONEY.**—In order to ensure safety we offer the following system:—The Purchaser of anything advertised in the Exchange Column may remit the amount to us. We acknowledge receipt to both parties by post-cards, and only pay the money deposited on the advice of the remitter. Whether returned to him or paid to the seller, we charge a commission of 6*d.* on any transaction of 3*l.* or less, or 1*s.* if above that amount.

Please note that the Exchange Column will appear Weekly. Advertisements must be received not later than Thursday next. Chemists will do well to look up their Surplus Stock and send an Advertisement of same.

## FOR DISPOSAL.

### Educational.

Wanted, cash offers for Bentley's "Botany," second edition; Bell's "Progress of Pharmacy"; Mannal Dental Mechanics. Oakley Coles, Mrs. Campbell, 7 Sanderstead Road, South Croydon.

A pharmaceutical student has his stock of books for sale, all quite new, including Pereira's "Materia Medica," Bentley's "Botany," Attfield's "Chemistry," Squire's "Companion," &c. Selby, 3 Marchmont Street, The Meadows, Edinburgh.

Set of illegible autograph prescriptions (original) 2*s.* 6*d.*, as presented to the Pharmaceutical Society of Ireland for their examinations; 30 prescriptions (catch and difficult) given to dispense at Minor during past 12 months, 2*s.*; 50 questions asked of successful students at last Minor, 1*s.* 1*d.*; new "Pharmacopœia," 5*s.*; lot of cheap, almost new, books; Attfield's "Chemistry," 1886, 12*s.*; Squire's "Companion," 1886, 8*s.* 6*d.*; carriage paid; stamp for list. Saunders, Medical Tutor, 6 Rochester Square, N.W.

### Literature.

Sir Henry Thompson's new novel, "All But"; free by post 3*s.* 6*d.* Cullingford, Seaford, Sussex.

Small medical library—Copland's Dictionary, Paris's "Pharmacologia," Salmon's "Herbal," 1710, &c. Send stamp for list. Brown, Chemist, Dover.

Dr. Ure's Dictionary of Arts, Manufactures, and Mines, 4 vols. (7*l.* 7*s.*), new, a special bargain, 4*l.*; "Good Words," "Quiver," "All Year Round," and other magazines, in parts, 2*s.* 6*d.*; bound vols., 3*s.* 6*d.*; see previous weeks. Walker, Seacombe.

### Soda-water Plant.

"Otto" gas-engine, soda-water machine, generator, gasometer, filling machines for corks, patents and syphons; bottles, boxes, syphons, &c.; all in good working order. Thirby, Leicester.

### Shop Fittings.

Second-hand Glass.—Specie jars and covers—Two 23 in. scrolls and plinths, 6*s.*; 2, 23 in. arms and stands, 6*s.*; 2, 25-in. scrolls, 60*s.*; 4, 16½-in. scrolls, 40*s.*; 1, 31-in. scroll, glass cover, 35*s.*; 6, 11½-in. turquoise jars, labels, glass covers, 30*s.*; carbons and stands, 3, 4 gal., 37*s.* 6*d.*; 3, 3 gal. and 1, 2 gal., 27*s.* 6*d.*; carbons, cut stoppers—1, 16 gal., 40*s.*; 2, 14 gal. and stands, 3*l.* 10*s.*; 14 doz. pounds and pots, no labels; 20 doz. labelled ditto; drug-scales, 20*s.* Hawke & Son, London.

5-ft. flat plate glass mahogany counter case, 11 in. high, 21 in. back to front, only 50*s.*; mahogany upright case, 36 in. by 23 in. by 7 in., glass shelves, mirror back, 25*s.*; upright case, 42 in. high, 30 in. wide, 20*s.*; 25-gall. tin-lined oil-casks (make capital seed-bins), 2*s.* each. Griffin, Chemist, Monument Road, Birmingham.

Several excellent second-hand nests shop drawers; 20 1 lb. blue canopy ointment jars 8*d.* each; 2 lb. ditto, 1*s.* 3*d.* each; 3 lb. ditto, 1*s.* 9*d.* each; 4 lb. ditto, 2*s.* 3*d.* each; set 20 4 lb. ditto, new gold labelled, 2*s.* 6*d.* each; quantity shop bottles, all sizes; 4 engraved acid bottles, 4*s.*; 4 gallon iron mortar and pestle, 18*s.*; pair 4 lb. French counter-scales, 15*s.* 6*d.*; pair 10 lb. ditto, 18*s.*; pair 4 lb. marble ditto, 17*s.*; 4 oz. verified measures, 10*s.* dozen; pint tincture press, 4*s.* 6*d.*; 16 oz. blue (plng) syrup bottles, 9*d.* each; ten 20 oz. ditto, 8*s.* Simcock, 17 Guildford Street, Leeds.

### Formulae.

Brooks' recipes have been advertised 5 years; 1,400 chemists have tried them, invariably with success; many of the recipes have cost 20 times the price asked; terms, the broadest, viz. "Satisfaction" see advt.; page 5, "How a Chemist Made a Fortune"; list of 300 recipes post free anywhere. T. Brooks, Chemist, Louth, Lincolnshire.

Soluble essences (non-alcoholic, for mineral waters); lime-juce cordial; chlorodyne (perfectly transparent); cascara sagrada cordial; concentrated waters (1 to 40); essence rennet (permanent, no salt); hop bitters; liquor carbonis (resembles Wright's); chemical liquors for syrups (stable); lac rosarum (inseparable, made in few minutes); ink (resembles "Dichroic"); elixir phosphori, invigorating tonic; sponges bleached (golden yellow); liquid dentifrice (like "Floriline"); marking-ink, *sine* silver, writing executed defies chemicals; saline (Fno's or Lamplough's); magic neuralgic drops; lime-juice and glycerine (white as milk, inseparable); pill-coating, pearly white, no mastic or mucilage; crimson marking-ink; hair-restorer, colourless, no deposit, *sine* silver; oleum flavum concentratum, stable colour for pomades; soluble ginger (like Hay's); liquor copaibe comp. c. buchu et matico (like Richardson's); liquor sautal. flav. (resembles Hewlett's); taraxicum podophyllin, iron quinine (both resemble Pepper's); many perfumes, also toilet requisites; state wants; lists issued; all inexpensive to prepare; 5*s.* each (5 for 1*l.*); analyses undertaken. Readers are warned against cheap substitutes. I was first to advertise formulae in this journal. "Analyst," Mr. Warnes, 6 Rochester Square, N.W. (Only prepaid inquiries answered.)

Old Isaacs Oil, as St. Jacobs Oil; salad cream, inexpensive, improves with age; 3*s.* each, two 5*s.* J. H. Kendall, Chemist, Blyth.

Gonorrhœa, syphilis, gleet, and venereal taint; set of eight practical recipes, with full directions for use, and distinguishing the various phases of these diseases, following which will entirely prevent that confounding of the symptoms of these disorders which so frequently occurs in counter prescribing; 3*s.* 6*d.* the set. Arthur Johnson, 64 Furness Hill, Sheffield.

### Miscellaneous.

12 lb. copper, new; ess. lemon, cash, 7*s.* 6*d.* lb. Newton, Chemist, Walsall.

Harden "Star" hand-grenades—being overstocked, a few doz. for sale. Wilson, Chemist, Harrogate.

Water cushion, Maw's fig. 9, 18 by 25, condition as new, 7*s.* 6*d.*, carriage paid. Howell, Chemist, Peckham, London.

Belt-metal mortar weight, 1 cwt., largest diameter 14 inches, height 1 foot; iron pestle, cost £10. What offers? Holmes, Chemist, Ringwood.

To be disposed of,—3 specie jars; 35 gallon wide-mouth black cup; 380 narrow-mouth and wide-mouth stock bottles and contents, stock all new; 5-foot lamp, most handsome, all copper, and in splendid condition. H. A., Horncastle's, Cheapside, E.C.

Surplus sundries, all guaranteed in perfect condition:—5 grs. each, 3 and 4 oz. dispensing bottles, 6*s.* grs.; ditto, 6 and 8 oz., 7*s.* grs.; best vital corks, 6*d.* grs.; 1 gr. 3-oz. wood-capped pomade bottles, 12*s.* 6*d.*; 2-oz. deep nested willows, 2*s.* 9*d.* grs.; ream white demy, 4*s.*; blue ditto, 6*s.* 6*d.*; ditto, seidlitz, 6*s.* 9*d.*; 2 grs. best white teats, 4*s.* grs.; black teats, 5*s.* grs.; black tubing, 7*s.* lb.; screw-stoppered feeders, black fittings, 33*s.* grs.; 12 doz. bent feeders, black fittings, 27*s.*; 6 doz. ditto, red, 13*s.*; 1-oz. stoppered "Lulins," 16*s.* 6*d.* grs.; 10, 30-oz. oil bottles, 1*s.* 8*d.* each; 6 Higginson's enemas, complete, 12*s.*; 3 grs. 1*d.* furniture cream bottles, 6*s.*; 300 8-inch filtering paper, 2*s.*; Boats feeders, 3*s.* 6*d.* doz.; glass nipple shells, 1*s.* 10*d.* doz.; 12 grs. 1-dram pink outs, 4*s.*; 1 doz. porcelain sick feeder cups, 4*s.* 6*d.*; 4 gross 1½-oz. vials for 15*s.*; 3 grs. 2-dram, 8*s.*; 2 grs. ½-oz., 5*s.* 9*d.*; 2-oz. heavy panelled flats, 7*s.* grs.; 6 doz. 1-oz. glass opal covered pots, 8*s.*; 1 grs. 2-oz. nickel screw pomades, 17*s.*; 1,000 soft copaiba capsules, 7*s.* 3*d.*; 1 grs. 8-oz. plug salines, 13*s.* 6*d.*; 12 grs. ginger-beer corks, 8*s.* Simcock, 17 Guildford Street, Leeds.

### WANTED.

Tea lead; exchange canisters or boxes. Snelling, Weston Street, London Bridge.

"Dr. Wilson on Hydropathy." A. Stokes, Drug Stores, Malvern.

Pessary-mould for 6; suppository-mould for 12; in good condition. Laurie, Chemist, Black-pool.

# ENORMOUS DEMAND!



## CHEAP

JUDSON'S  
**CHEAP!!!**  
 GLASS FILTERS.



Style "K."

**TO RETAIL AT**

1 Pint	-	-	2s.
2 "	-	-	3s.
3 "	-	-	4s.

LIBERAL DISCOUNT TO  
 THE TRADE.



## GOOD



# LARGELY ADVERTISED.

DANIEL JUDSON & SON, LIM., Southwark St., LONDON, S.E.



EIGHT PRIZE MEDALS AWARDED.

**GOODALL'S  
HOUSEHOLD SPECIALITIES.****Yorkshire Relish**

THE MOST DELICIOUS SAUCE IN THE WORLD.

This cheap and excellent Sauce makes the plainest viands palatable, and the daintiest dishes more delicious. To Chops and Steaks, Fish, &c., it is incomparable. Sold by Grocers, Oilmen, Chemists, &c., in Bottles, 6d., 1s., and 2s. each.

CAUTION.—On each *Yorkshire Relish* Label is a Willow Pattern Plate, and name, GOODALL, BACKHOUSE & CO. No other is genuine.

**Goodall's  
Baking Powder**

THE BEST IN THE WORLD.

Makes delicious Puddings without Eggs, Pastry without Butter, and beautiful light Bread without Yeast. In 1d. Packets; 6d., 1s., 2s., and 5s. Tins.

**Goodall's  
Quinine Wine**

The best, cheapest, and most agreeable tonic yet introduced. The best remedy known for Indigestion, Loss of Appetite, General Debility, &c. Restores delicate individuals to health and vigour. In Bottles, 1s. and 2s. each.

**Goodall's  
Custard Powder**

For making delicious Custards without Eggs, in less time and at half the price. Unequalled for the purposes intended; will give the utmost satisfaction if the instructions given are implicitly followed. Sold in boxes, 2d., 6d., and 1s. each.

**Goodall's  
Blanc Mange Powder**

Is acknowledged by all to be the most convenient and economical preparation ever introduced, as, by its use, a most Rich and Delicious Blanc-mange may be produced in a few minutes at a trifling cost, and may be had of various flavours, *i.e.*, Raspberry, Strawberry, Lemon, Almond, and Vanilla. Sold in Packets, 6d. and 1s. each.

**Goodall's  
Egg Powder**

Acknowledged to be the only real substitute for eggs yet discovered. Its action on Cakes, Puddings, &c., &c., resembles that of the egg in every particular, enriching them in colour and flavour, rendering them most wholesome and nutritious. One penny packet will go as far as four eggs; and one sixpenny tin as far as twenty. In 1d. Packets; 6d. and 1s. Tins.

SOLE MANUFACTURERS—

**GOODALL, BACKHOUSE & CO.,**  
WHITE HORSE STREET, LEEDS.

A Monthly Price List of Druggists' Sundries, Patent Medicines, &c., can be had post free on application.

12½ gals. for £1, Cask free.  
SPECIAL LINES FOR CASH BUYERS!!

**TYRER'S**  
WORCESTER SAUCE,  
YORKSHIRE SAUCE,  
"BOROUGH" KETCHUP.  
BEST VALUE THAT MONEY CAN PURCHASE.

Prices and Samples sent free of all cost by  
PETER TYRER, The "Borough" Ketchup & Sauce Maker,  
LONDON. S.E.

FREED FROM PRUSSIC ACID BY AN IMPROVED PROCESS.

**UMNEY'S**

CONTAINS NO PRUSSIC ACID.

**ESSENTIAL OIL OF ALMONDS**

CONTAINS NO ALCOHOL OR ARTIFICIAL FLAVOUR.

WRIGHT LAYMAN & UMNEY, SOUTHWARK-LONDON.

**STOWER'S  
LIME JUICE SYRUP & CORDIAL**

Prepared from their Original Lime Juice Syrup Recipe.

PURE LEMON AND LIME JUICE, SWEETENED  
AND UNSWEETENED.

The advantages offered over other Makers' Cordials are—  
That it contains more Lime Juice.  
That it is entirely free from chemical or other acids, except the natural acid in the pure juice of the fruit.  
That it is quite **FREE FROM THE MUSTY TASTE AND SMELL** which predominate in most, if not all, of the Cordials.  
It is guaranteed to keep, open or closed, for any length of time in any climate or temperature, and to be entirely free from Alcohol.

Any Medical Man can order a Sample Post Free and Gratis.

A. RIDDLE & CO., 38 COMMERCIAL ST., LONDON, E.

**TOWER TEA**

A SAFE and PROFITABLE addition to a Chemist's Business.

For retail at

The London Broken Tea ... 1/8

The London Two Shilling Tea... 2/-

The London 2/8 Assam Tea... 2/8



For Testimonials and References see the full-page Advertisement which appears monthly in this Journal. Last insertion, March 27, page v.

**THE GREAT TOWER STREET TEA CO., LIMITED,**  
LONDON.



# WHY SELL OBSOLETE GOODS ?

The old styles of Filters were very good in their time, but the discovery of JUDSON'S Filtering Medium, to take the place of the "WORSE THAN USELESS" Charcoal, has entirely put them out of the question for Domestic use.

## JUDSON'S FILTERS

AND

## FILTERING MEDIUM,

THE ONLY Filtering Medium that really Purifies Water, removing Impurities both in **SOLUTION** and Suspension.

Judson's "Galvano-Electric" Filtering Medium is used in all their Filters, and is WARRANTED NOT to contain Animal Charcoal or other deleterious matters.

WRITE FOR ILLUSTRATED CATALOGUE.

DANIEL JUDSON & SON, LIM., SOUTHWARK ST., LONDON, S.E.

## S. MAW, SON & THOMPSON

HAVE JUST RECEIVED

A LARGE CONSIGNMENT OF  
**EGYPTIAN LOOFAHS**  
OF EXCEPTIONALLY GOOD QUALITY.

PRICE TO THE TRADE:

From 4s. to 12s. per doz., according to size.  
Very large Picked Specimens, uncut, for  
Show, from 1s. 6d. to 2s. 6d. each.

S. MAW, SON & THOMPSON, LONDON.



# SUPPLEMENT TO "THE CHEMIST AND DRUGGIST."

SATURDAY, MAY 1, 1886.

i

## Hunyadi János

**CAUTION.**—Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Sole Proprietor of the Hunyadi János Spring, compel him to WARN the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

146 MINORIES, LONDON E.C.  
New York  
Sydney

**SODA WATER MACHINERY**  
AND ALL ACCESSORIES FOR THE TRADE

**BRATBY & HINCHLIFFE**  
HEAD OFFICE  
SANDFORD ST. ANCOATS, MANCHESTER

BOXES BOTTLES, MACHINERY.  
ESSENCES  
Catalogues Circulars Testimonials  
Post Free

### TEMPERANCE WINE MIXTURES

For producing delicious Temperance Beverages  
in a few minutes.

One Shilling Bottle will make 5 quarts of Cordial.

GINGER, RASPBERRY, STRAWBERRY,  
BLACK CURRANT, LEMON, ORANGE, PINEAPPLE  
PEPPERMINT, &c.

Sole Agency given to Chemists in towns not already represented.

Attractively put up in 6d. and 1s. Bottles. Liberal Terms.  
Labels and Titles protected. Write for Prices.

**YOUNGER & RIDLEY, Bampton, Cumberland.**

### T. & F. J. TAYLOR'S



**AËRATED WATERS,**  
*Newport Pagnel.*

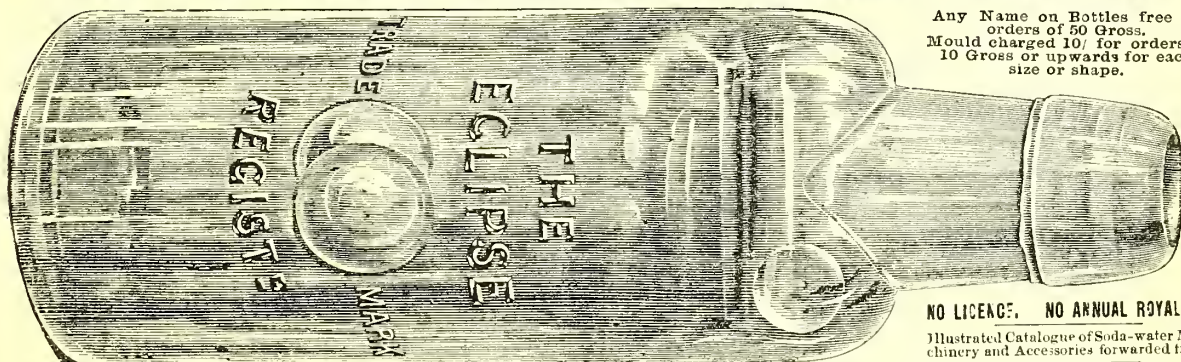
ESTABLISHED 1835.

**SODA, POTASH, SELTZER, AËRATED (without  
Alkali), and LITHIA WATERS,  
LEMONADE AND GINGER ALE.**

*Each Bottle is protected by a Label bearing the Signature  
of the Firm.*

Purity and Excellence of the Water certified by Analysis  
by Professor ATFIELD. Ph.D. F.C.S.

### THE "ECLIPSE" GLOBE-STOPPERED BOTTLE.



Any Name on Bottles free for  
orders of 50 Gross.  
Mould charged 10/ for orders of  
10 Gross or upwards for each  
size or shape.

**NO LICENCE. NO ANNUAL ROYALTY.**

Illustrated Catalogue of Soda-water  
Machinery and Accessories forwarded free.

Present Prices, net, for quantities of 100 Gross and upwards:—SPLITS, 14 G. FULL SIZE, 16 G per Gross,  
including Bings. 12 and 14 oz., 1; 16 oz., 2/ extra per Gross. At our Works, SWINTON, YORKSHIRE.

**EXTRA RINGS, 2/ per Gross. SEND FOR SAMPLE AND COMPARE!**

ORDERS TO BE SENT TO

**BARNETT & FOSTER,**

"NIAGARA WORKS" 96T EAGLE WHARF ROAD, LONDON. N.

Mineral Water Engineers, Manufacturing Chemists,  
and General Providers to the  
Aërated Water, Wine, Beer, and Cider Trades,



ESTABLISHMENT OF BOULEVARD VOLTAIRE, 162 & 164, PARIS.

GOLD & SILVER  
MEDALS



AT ALL  
EXHIBITIONS.

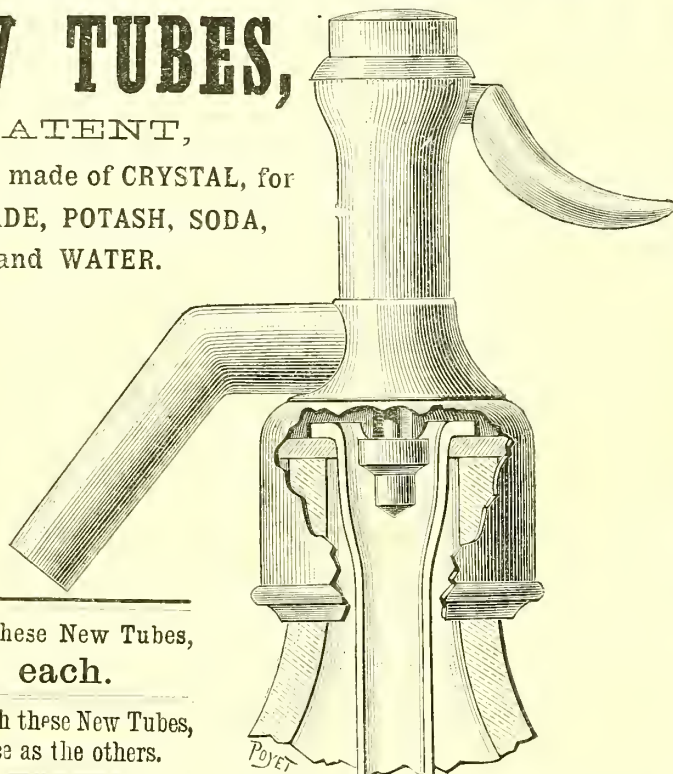
# DURAFORT

PATENTED.

## NEW TUBES,

PATENT,

ENTIRELY made of CRYSTAL, for  
LEMONADE, POTASH, SODA,  
and WATER.



PRICE of these New Tubes,  
2d. each.

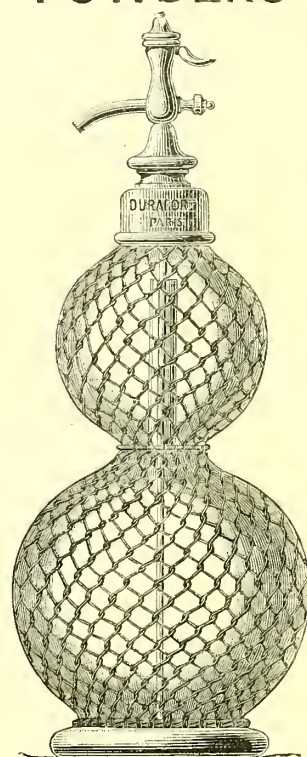
Syphons with these New Tubes,  
same Price as the others.

TUBE ENTIRELY MADE OF CRYSTAL.

These New Patented Tubes suppress any metallic contact, and prevent, therefore, any decomposition forming a sulphhydrate of tin or silver, which imparts to the liquids contained in the syphons a disagreeable and unwholesome taste.

These tubes can be adapted to all sorts of syphons; those of metallic mounting can be removed, and supplanted by them.

## APPARATUS AND POWDERS



2 pints, 8/-; 3 pints, 9/-;  
5 pints, 14/-.

*Les 33 D'333117 for Quantities.*

### SYPHONS OF ALL MODELS.

CYLINDRICAL OR OVAL SYPHONS In White or Coloured Crystal.	Second Quality	First Quality	Superior Quality
With Small Lever or Piston-Lever ...	£0 18 0	£0 19 0	£1 0 0
Large Lever .....	0 19 0	1 0 0	1 1 0

Nickel-plated Top, 2d. extra per Syphon. Silver-plated Top, first quality, 10d., second quality, 7½d. extra per Syphon. Half Syphons cost 1s. per dozen less. The Syphons are set up with fixed rings or loose rings. Bottle with rings, 10s., without rings, 8s. 8d. per dozen. Package per 100 Syphons, 8s. Weight of 100 Syphons, 4 cwt.

Pressing for setting up Syphons.

Pincers and Tools for Repairing.



# GUÉRET FRÈRES,

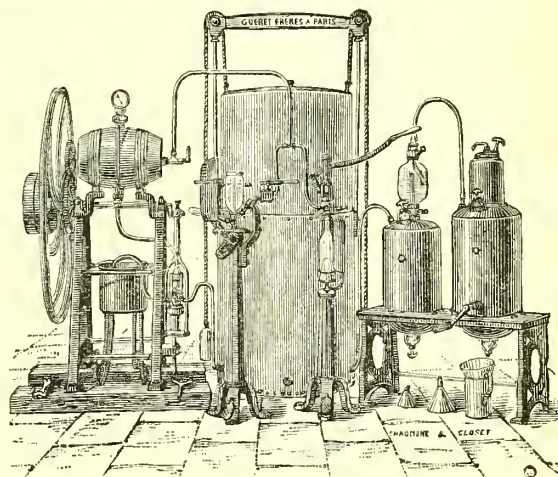
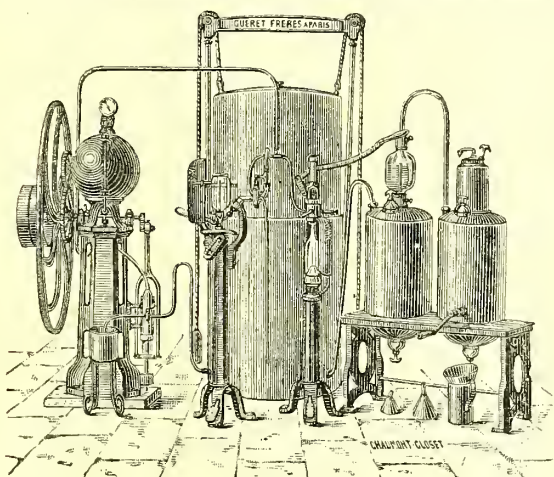
Mechanical Engineers, privileged in France and Abroad,  
**72, BOULEVARD DE LA GARE, PARIS.**

**GOLD MEDAL, AMSTERDAM, 1883.**

**PLANT & SYPHONS FOR THE MANUFACTURE OF AÉRATED BEVERAGES,**  
WITH ALL THE LATEST IMPROVEMENTS.

**COMPLETE CONTINUOUS APPARATUS, SPHERICAL OR PEAR-SHAPED.**

The Saturator is of brass, guaranteed free from every defect in construction and perfect in action, tested at high pressure, combining economy with the greatest sanitary security, and enjoying an unrivalled reputation.



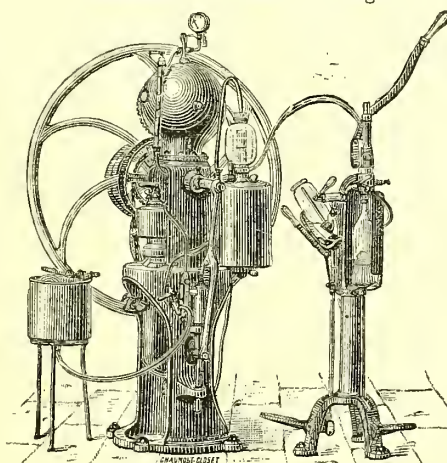
## SYPHONS

With small levers, fittings of metal of highest quality, and best glass.



## CONTINUOUS APPARATUS

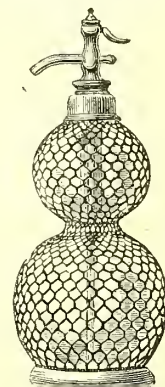
For the automatic generation of carbonic acid gas, the only practical system applicable to the manufacture of Aërated Beverages.



## GAZOSELTZ

For the instantaneous production of Aërated Beverages at table.

Any one can use them.



**FULL PARTICULARS AND GENERAL CATALOGUE SENT ON APPLICATION.**



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### \* \* BEARDSLEY'S INSECT POWDER,

FOR THE INSTANTANEOUS DESTRUCTION OF INSECTS.

1d., 2d., 3d. and 6d. Packets.

Fac-simile of Fly Paper as printed with name and address.

Fac-simile of Fly Paper as printed with name and address.

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FLIES, MOTHS, MOSQUITOES, &c.

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<b>10,000</b>	<b>CROWN 8vo. BILLS</b>	<b>12s. 6d.</b>
	(7½ in. × 5 in.)	
<b>10,000</b>	<b>DEMY 8vo. BILLS</b>	<b>18s.</b>
	(9 in. × 5½ in.)	

ALL OTHER SIZES AT EQUALLY LOW RATES. SAMPLES AND PRICES ON APPLICATION.

**LABELS** of every description. **SLIP LABELS**, 10,000 (10 kinds) **1s. per 1,000.**

**PRICE LISTS**, Pamphlets, Circulars, Billheads, Memorandums, Cards, and all kinds of Printing and Stationery required by Chemists at most Moderate Prices. **STOCK SHOW CARDS**, Gold on Black, Gilt Bevelled Edges, size 10 in. × 6½ in., for various specialties; Samples 9d. each, post free.

Sole Agents for **CHARLES RICHARD'S PATENT PERFECT TUBE CLEANER FOR INFANTS' BOTTLE-TUBES.** 6s. 6d. per gross; Carded, 8s. per gross.

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Telephone Number,  
1852.

# Advertisers' & Buyers' Reference List, AND INDEX TO ADVERTISEMENTS.

TELEGRAPHIC ADDRESS—  
**CHEMDRUG**  
**LONDON.**

ADVERTISEMENTS APPEARING IN THIS ISSUE OF "THE CHEMIST AND DRUGGIST."

Please note that to satisfy Post Office requirements the Advertisements are paged twice—once in Arabic, once in Roman numerals.

<p><b>A</b></p> <p>JESCAPAL BITTER WATER CO., LIM. TEXT 381 ALLEN &amp; HANBURY'S Cod Liver Oil, Wholesale Druggists. COVER A1 MENTHOL CONES (Sharley, J. G.) ..... 24 APOLLINARIS CO. Apollinaris Water, Hungary Janos xi APOLLINARIS CO., Friedrich-hall Water TEXT 354 ASSISTANTS WANTED AYRTON &amp; SAUNDERS English Willow Boxes, Specialities in Bottles 22 BARNETT &amp; FOSTER "Eclipse" Globe-stoppered Bottle i</p>	<p><b>G</b></p> <p>GIBSON, R. .... Medicated Lozenges 15 GILBERT, W. .... Pilules &amp; Tinctures xvi GOODALL, BACKHOUSE &amp; CO. Yorkshire Belish, &amp;c. 11 GT. TOWER ST. TEA CO. Celebrated London Teas 11 GUERET FRERES Syphons &amp; Soda Water Plant 11</p>	<p><b>O</b></p> <p>OLDFIELD, PATTINSON &amp; CO. Drugs, Chemicals, and Specialities x ORRIDGE &amp; CO. .... Transfer Agents 4</p>
<p><b>B</b></p> <p>BATTLE &amp; CO. .... Bromidia xvi BIGGS, T., Sheep and Lamb Dipping Composition 20 BINGLEY BIRKBECK BANK Bank and Building Society xvi BLYTON, T., BAGE &amp; CO. .... Medicated Lozenges 15 BOEHM, GUS. Perfumery, Soap, &amp; Menthol Chacms xvi, 17 BOLE HALL MILL CO. .... Surgical Bandages xvi BORROUGHS, WELLCOME &amp; CO. Dram Mill, Tincture Press (Enterprise) ix BOURNE, JOHNSON &amp; LATIMER Catalogue 23 BRATBY &amp; HINCILLIFFE Aerated Water Machinery i BRISTOW, T. F., &amp; CO. .... Perfumery xvi BROOKS, T. .... Perfumery xvi BURGOYNE, BURBIDGES &amp; CO. Dr. Koch's Meat Peptone xv BUSINESSES FOR DISPOSAL ..... 4, 5</p>	<p><b>H</b></p> <p>HALLER &amp; CO. .... Lavandine x HAY, W. .... Soluble Essence Lemons, Ess. of Ginger 1 HEARON, SQUIRE &amp; FRANCIS Terebene, TEXT 384 HODGE &amp; CO. .... Improved Truss 19 HOOPER &amp; CO. .... Sparkling Seltzer COVER HOWARDS &amp; SONS Quinine and Pharmaceutical Chemicals xii HOMOEOPATHIC HOSPITAL Hospital and School 6 HORN &amp; SON Patent and Trade Mark Agents xvi HUNYADI JANOS Hunter Sifter CO. .... Sifters, Mixers, &amp;c. xx</p>	<p><b>P</b></p> <p>PATTISON, G. (Youngs) .... Corns 19 PATENT PLUMBAGO CRUCIBLE CO. Crucibles, Porous Pots, &amp;c. 10, xvi PETERSON &amp; CO. .... Sponge 14</p>
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<p><b>E</b></p> <p>EDINBURGH CLASSES ..... School of Pharmacy 6 EVANS, SONS &amp; CO. Wholesale Druggists' Sundries, Savars Specialities, Montreal Lime Juice ..... xv EVANS, LESCIER &amp; WBBB Wholesale and Export Druggists, London xv EVANS, SONS &amp; MASON (LIM.) Wholesale Druggists xv EXCHANGE COLUMN ..... 9</p>	<p><b>K</b></p> <p>KEMP &amp; SON ..... Crushed Linseed xvi KIMPTON, H. .... Books, discount 6 KINMOND CO. .... Mineral Waters 18 KILNER BROS. .... Feeding and Dispensing Bottles 19</p>	<p><b>T</b></p> <p>TAYLOR, T. &amp; F. J. .... Aerated Waters i THOMPSON, MILLARD &amp; CO. (LIM.) Beatrice and Tropical Feeding Bottles, Druggists' Sundries ..... viii TOOGOOD, W. .... Lampion Lophos 21 TOWNSEND, J. .... Handbills and Labels 14 TOWLE, A. P., &amp; SON Thornton's Toilet Cream and Chlorodyne xiv TYRER, P. .... Ketchup, Sauces, &amp;c. 11</p>
<p><b>F</b></p> <p>FELTOW &amp; SONS Line Juice xvi FITCH &amp; NOTTINGHAM Leeches 19 FLETCHER, FLETCHER &amp; STEVENSON Extract Cinnamon Lin. (De Vray) 3 FOLLOWES &amp; BATE Druggists' Mchey, all kinds 13 FORD, SHAPLAND &amp; CO. Fly Papers, Printing iv</p>	<p><b>L</b></p> <p>LEO &amp; CO. Leo's Compressed Chlorate of Potash 15 LEVERMORE, AUG., &amp; CO. Pure Precipitated Chalk xvi LLOYD, A. S. .... Excises xvi LONDON HOMOEOPATHIC HOSPITAL ..... 6 LYNCH &amp; CO. .... Trusses. COVER</p>	<p><b>V</b></p> <p>VAN ABBOTT ..... Diabetes Foods xvii VOGELER CO., THE CHARLES A. St. Jacobs Oil 21</p>
<p><b>AERATED AND MINERAL WTS AND PLANT</b> [See SYPHONS and ESSENCE.] Apollinaris (Hungary, Friedrich-hall, and Apollinaris) Barnett and Hinchcliffe Brett's, Lim. British Syphon Co. Bush, W. J., &amp; Co. (Foam Producer, &amp;c.) Chemists' Aerated Waters Association Ellis (Ruthin) Favarger, H. (Min.) Gallais, E. (Min.) Guert Freres Harrison, W. B. Hassall and Co. (Citric Acid, Phospho)</p>	<p><b>AERATED &amp; MINERAL Wts &amp; Plant—cont.</b> Hooper and Co. (Brighton Seltzer) Idris and Co. Ingram and Royle (Mineral and Vichy) Jewsbury and Brown La Bourboule Meadowcroft, W. Melin, C. Mills and Co. (Bourne) Rylands, Dan Schlicht, W., and Co. (Kronen-quelle) Schwepe &amp; Co. Stevenson and Howell Taylor, T. and F. J. Tyler, Hayward, and Co. Vallet, L. (Bottles) Younger and Ridley (Temperance Wines)</p>	<p><b>W</b></p> <p>WESTMINSTER COLLEGE Wills' Universal Postal System 6 WINK, J. A., &amp; CO. .... Morphia and all its Sauts xvi WOODS, M. W. .... Arica Tooth Paste xvi WRIGHT, LAYMAN &amp; UMEY Wholesale and Export Druggists Essential Oil of Almonds 11, COVER WYLES &amp; CO. Coated Pills, Pharmaceutical, Wholesale Druggists xii</p>
<p><b>ACETIC ACID</b> Dunn and Co. Lindsey, C. R., and Co.</p>	<p><b>ALKALOIDS</b> Howards and Sons (Cinchona) Smith, J. and H.</p>	<p><b>AGENCIES ABROAD</b> Campbell, Neil S. (Colombo) Cocking (Japan) Davison, A. [delphia] Eisner and Mendelson (Philad- Evans, Sons and Mason (Canada) Felton (Melbourne) Fongera (New York) Hornumjee Ruttonjee (Bombay) Kempthorne (New Zealand) Lennon (Port Elizabeth) Meyhew, E. (Wests. Australia) Phillips and Co. (Bombay) Prosser, E., and Co. (Sdney) Reed, F., and Co. (Natal) Roberts (Paris, &amp;c.) Rooke (Melbourne) Sharland &amp; Co. (Auckland N.Z.) Shirreffs and Co. (Allahabad) Symes and Co. (Simla)</p>
<p><b>AMMONIA</b> May and Baker</p>	<p><b>APPARATUS</b> Cetti, E. (Meteorological) Follows and Bate, Lim. May, Roberts (Water-bath) Morgan Crucible Co. Orme (Scientific) Pat. Plumbago Co. Co. Rothermel, Paul (Vinegar) Wolters, Otto (Balances)</p>	<p><b>BANDAGES</b> Bailey and Son Bole Hall Mill Co. Gibbs, Cuxson, and Co. Hutchinson, A., and Co. ("Heft- Liverpool Lint Co. band") Robinson and Sons Seabury and Johnson</p>
		<p><b>BANK</b> Birkbeck Bank</p>

## CLASSIFIED LIST OF ALL ADVERTISERS

Whose Announcements appear in "THE CHEMIST AND DRUGGIST." Those whose Names do not appear above are published in one of the other issues of this month.

### AERATED AND MINERAL WTS AND PLANT

[See SYPHONS and ESSENCE.]

Apollinaris (Hungary, Friedrich-hall, and Apollinaris)  
Barnett and Hinchcliffe  
Brett's, Lim.  
British Syphon Co.  
Bush, W. J., & Co. (Foam Producer, &c.)  
Chemists' Aerated Waters Association  
Ellis (Ruthin)  
Favarger, H. (Min.)  
Gallais, E. (Min.)  
Guert Freres  
Harrison, W. B.  
Hassall and Co. (Citric Acid, Phospho)

### Aerated & Mineral Wts & Plant—cont.

Hooper and Co. (Brighton Seltzer)  
Idris and Co.  
Ingram and Royle (Mineral and Vichy)  
Jewsbury and Brown  
La Bourboule  
Meadowcroft, W.  
Melin, C.  
Mills and Co. (Bourne)  
Rylands, Dan  
Schlicht, W., and Co. (Kronen-quelle)  
Schwepe & Co.  
Stevenson and Howell  
Taylor, T. and F. J.  
Tyler, Hayward, and Co.  
Vallet, L. (Bottles)  
Younger and Ridley (Temperance Wines)

### ACETIC ACID

Dunn and Co.  
Lindsey, C. R., and Co.

### ALKALOIDS

Howards and Sons (Cinchona)  
Smith, J. and H.

### AMMONIA

May and Baker

### APPARATUS

Cetti, E. (Meteorological)  
Follows and Bate, Lim.  
May, Roberts (Water-bath)  
Morgan Crucible Co.  
Orme (Scientific)  
Pat. Plumbago Co. Co.  
Rothermel, Paul (Vinegar)  
Wolters, Otto (Balances)

### AGENCIES ABROAD

Campbell, Neil S. (Colombo)  
Cocking (Japan)  
Davison, A. [delphia]  
Eisner and Mendelson (Philad-  
Evans, Sons and Mason  
(Canada)  
Felton (Melbourne)  
Fongera (New York)  
Hornumjee Ruttonjee (Bombay)  
Kempthorne (New Zealand)  
Lennon (Port Elizabeth)  
Meyhew, E. (Wests. Australia)  
Phillips and Co. (Bombay)  
Prosser, E., and Co. (Sdney)  
Reed, F., and Co. (Natal)  
Roberts (Paris, &c.)  
Rooke (Melbourne)  
Sharland & Co. (Auckland N.Z.)  
Shirreffs and Co. (Allahabad)  
Symes and Co. (Simla)

### BANDAGES

Bailey and Son  
Bole Hall Mill Co.  
Gibbs, Cuxson, and Co.  
Hutchinson, A., and Co. ("Heft-  
Liverpool Lint Co. band")  
Robinson and Sons  
Seabury and Johnson

### BANK

Birkbeck Bank

### BEDS, WATER

Hutchinson, A., and Co. (Sheet-  
ing Rubber)  
Pocock Bros.  
Hooper and Co.

### BEEWAX & HONEY

Kemp, W., and Son



**BICARB. SODA**

Brunner, Mond and Co.  
Gaskell, Deacon and Co.  
Howards and Sons  
May and Baker

**BISMUTH PREP.**

Howards and Sons  
May and Baker

**BOOKS**

Dobell, Dr. (Bournemouth)  
James, Dr. Prosser (Guide to  
New B.P.)  
Kimpson (Discount)  
Smith, J. G. ("Aërtid Wtrs.")

**BOTTLES**

Aire and Calder  
Ayrton and Saunders  
Barnett and Foster (the  
"Eclipse" Stopped)  
Brefts, Lam.  
Brooks, Peel (Perfumers)  
De Luca, G. V.  
Harris and Co.  
Hearn, Riddle  
Isaac, I., and Co.  
Kilner Bros.  
Potts  
Rylands, Dan  
Simcock, T.  
Simcock, W.  
Thompson, Millard and Co.  
Toogood (Feeding)  
Vallet

**BOXES**

Armndel (Folding Card)  
Anstn and Co. (Cardboard)  
Ayrton and Saunders (Willow)  
Banks and Ratcliffe (Soaps, &c.)  
Bethell, Thomas P. (Folding)  
Bremer, Aug. (Cribd Fldg)  
Fates' Turned Wood  
Metz, Paul (Pine and Willow)  
Noakes, B., and Co.  
Patent Safety Sample  
Robinson and Sons (Cardboard)  
Rogers, J., and Co.  
Self-Opening Tin Box Co.  
Thompson Norris Manufg. Co.

**BROKERS' DRUG**

Morrison, R., and Co.

**BRUSHES**

Ashworth (Metallic)  
Dukas and Co.  
Gérard, A. (Toilet)  
Lynch and Co. (Electric)

**BUTTER COLOUR**

Bush, W., Son, and Co. (Mari-  
goldine)  
Meyer and Henckel  
Oldfield, Pattinson and Co

**CAMPBOR**

Howards and Sons (pathic)  
Keene and Ashwell (Homæo-  
May and Baker  
Murray, Sir James (Fluid)

**CAPSULES**

Betts and Co. (Metallic)  
Chevalier (Soluble)  
Denonal, J. (Medicinal)

**CATALOGUES**

Bourne, Johnson, and Latimer  
Newbery and Sons  
Quarterly Price Current (Maw's)

**CEMENT**

Foulkes  
Kay (Coaguiline)  
CHALK PRECIP.

**CHEMICALS**

Bramwell, E., and Son  
Brunner, Mond and Co. (Bicar-  
bonate of Soda)  
Bush, W., and Co.  
Dunn and Co.  
Gaskell, Deacon and Co. (Bi-  
carbonate of Soda)  
Howards and Sons (Pharma-  
ceutical)

**CHLORODYNE**

May and Baker  
Newton, Robinson and Co.  
Oldfield, Pattinson and Co.  
Schnehardt, Dr. Theodor  
Smith, T. and H.  
Sumner, R., and Co.  
Sutton and Co. (Volumetric  
Analysis)  
Tyjke and King  
Zimmermann, A. and M.

**CHLOROFORM, &c.**

Duncan, Flockhart  
Macfarlan, J. F.  
Smith, T. and H.  
Zimmermann

**CHLORODYNE**

Bage, T., Blyton, and Co.  
Davenport (Browne's)  
Freeman  
Towle, A. P.

**COCAINE**

Howards and Sons  
COCOA & CHOCLET

Cadbury Bros.  
Fry (Malted)  
Richards, J. M. (DeLaere's)

**COFFEE**

George and Welch (Dandelion  
Symington (Various Essences)

**COD-LIVER OIL**

Allen and Hanburys  
Baiss Bros.  
Beesley, J. E., and Sons (Iodized)  
Hooper, B., and Co.  
Smith, T. J.  
Southall Bros. and Barclay (A1)  
CMPRSSD MDCNS  
Burroughs, Wellcome and Co.  
Brysdale and Co. (Leo's Chloro-  
Hooper, B., and Co.  
Leo and Co.

**COMBS**

Ayrton and Saunders (Silver)  
Snithers

**CORN CURES**

Chave and Jackson (Celandine)  
Harvey's Pencils (Hockin,  
Wilson and Co.)  
Robinson, B.  
Young's

**CORRUGTD PAPER**

Thompson Norris Manufg. Co.

**CRUCIBLES**

Morgan Crucible Co.  
Pat. Plumbago Co.

**DOG MEDICINES**

Spratts (Patent) ("Fibrine")

**DENTIFRICES**

Barton  
Beddard, J.  
Jewbury and Brown  
Martin, J. W. (Rozalium)  
Rimmel  
Sutton, O., and Co.  
Thompson and Capper  
Woods, W. (Arecia Nut)

**DENTISTRY**

Buck, F. (Lessons)  
Jones, Dr. C. H. (Mechanical)

**DISINFECTANTS**

Calvert, F. C., and Co.  
Harrison and Co. (Hydroline)  
New Carbolic Sanitary Co.  
Rimmel  
Sanitas  
Steele and Co. (Chloride of  
Lime)

Wyleys and Co. (Pure Terebene)

**DRUGGISTS' SUN.**

Ayrton and Saunders  
Baiss Bros.  
Bourne, Johnson  
Evans, Leecher and Webb  
Hockin, Wilson and Co.  
Lairitz (Pine Wool)  
Lynch and Co.  
Maw, S., Son, and Thompson  
Max, Roberts and Co.  
Newbery, F., and Sons  
Schulze and Co.  
Simcox, W.  
Thompson, Millard  
Toogood

**DRUG MILLS**

Burroughs, Wellcome and Co.  
Follows and Bate (Entreprs.)  
Werner and Pfeleiderer

**DUBBIN**

Dales, J. T.  
Jamieson and Co.

**DUTCH MEDCNS.**

Bieber, J. D.

**DYES**

Ayrton and Saunders  
EAU DE COLOGNE  
Farina, J. M. (Gegenüber)

**ELECTRIC APPAR.**

Darton, F., and Co.  
Orme and Co.

**ENEMAS**

Ingram and Son  
Lynch and Co.  
Schulze and Co.

**ENGRAVERS**

Barker, W., and Son

**ESSENTIAL OILS**

Bush, W., Son, and Co. (Impres.)  
Bush, W. J. (Lemons, &c.)  
Cocking (Japan Peppermint)  
Jackson, J. & Co. (Peppermint, &c.)  
May and Baker  
Morrison, R., and Co.  
Restuccia (Sicilian)  
Roche, Tompsett (Eucalyptus)  
Stillman and Fulton  
Stevenson and Howell  
Todd (Am. Peppermint)  
Wright, Layuan and Umney

**ESSENCES, FRUIT**

Bush, W. J., and Co.  
Hay's Soluble Lemon, &c.  
Jakson, J., and Co.  
May and Baker  
Meadowcroft, W.  
Stevenson and Howell  
Sumner and Co. (Ginger Ale)  
Sutton, Francis and Co. (Stan-  
dard Solutions)

Tyjk and King (Pear and  
Pineapple)

**ETHER**

Duncan, Flockhart and Co.  
Howards and Sons (Chloric  
May and Baker  
Robbins

**EXTRACT, MEAT INK**

Brand and Co.  
Burgoyne, Burdidge and Co.  
(Dr. Koehs)  
Gibbs  
Hugo, Brown and Co.  
Liebig Co.  
London Manufacturing Co.  
Mason, Geo., and Co.  
Poths (Leube Rosenthal)  
Richards, J. M. (DeLaere)

**EXTRACTS, FLUID**

Baiss Bros.  
Barber, G., and Co.  
Burgoyne, Burdidge  
Harker, Stagg  
Stearns, F., and Co.  
Thompson, Henry Ayscough,  
and Son

**FACE POWDERS**

Chubb, J., and Co. (Violet)  
Fonfikes

**FEEDING BOTTS.**

Bourne, Johnson and Co.  
Brodie's Lin.  
Hearn, Riddell and Co.  
Kilner Bros.  
Lang, J., and J.  
May, Roberts, and Co.  
Richards, Charles (Tube  
Cleaner)  
Simcock, T.  
Thompson, Millard and Co.

**FILTERING**

Donlon and Co.  
Judson, D., and Son  
Maiguen (Filtre Rapide)  
Mawson and Swan  
Schwenker, E., and Co. (Paper)  
Silicated Chrb Filt Co.  
The Chamberland-Pasteur  
Filter

**FOOD, INFANTS'**

Jensen (Peptone)  
Savory and Moore (Pancreatic)  
Van Abbott (Diabetic)

**FORMULÆ**

Brooks, T.

**FULLER'S EARTH**

Chubb, J., and Co.  
Hynam, J.  
Rouse and Co.

**FUNNELS**

Lynch and Co.

**GAS ENGINES**

Crosley Bros.

**GINGER ALE**

Hay, W.  
Kimmond  
Mills, R. M.  
Ross and Co.  
Schweppe (Dry)  
Sumner, R., and Co.

**GLYCERINE**

Fink  
Price's Candle Co.

**GRANULAR PRE****PARATIONS**

Allen and Hanburys  
Bush, W., and Co.  
Goodall, Backhouse and Co.  
Stearns, F., and Co.

**GRINDING MCHNS**

Pracher and Co.  
Follows and Bate  
Werner and Pfeleiderer

**GUMS**

Fink (Arabic, &c.)  
GUTTAPERCHA  
Duncan, Flockhart  
Stevens, P. A. (White)

**HAIR PREPARA-**

TIONS  
Ayrton and Saunders  
Bates, T. W. (Frizzetta)  
Chesebrough Mfg. Co.  
James and Co. (Herbl. Pom.  
Rimmel  
Sturrock's Oleagm  
Towie Toilet Cream (Thorn  
ton's)

**HARNES POLISH**

Jamieson and Co.

**HERBALISTS**

Butler, McCulloch  
Potter and Clarke

**HOMOEOPATHIC**

Bristol and W. of England  
Epps, James, and Co.  
Gilbert, W.  
Gould, E., and Son  
Keene and Ashwell  
Leath and Ross  
Thompson and Capper

**HOSPITALS**

London Homoeopathic

**ICE**

Barnett and Foster  
Harrison, W. B.

[See MARKING.]

Antoine  
Bewley and Draper  
Clarke, J. T.  
Duncan, Flockhart  
Jamieson and Co.

**INSECTICIDES**

Lord, Shapland and Co. (Fly  
Paper)  
Galzy, E.  
Judson and Son, Lim.  
Sandford  
Sumner, R., and Co.

**KETCHUP**

Tyler, P.

**LABELS**

Blake and Mackenzie  
Bowers Bros.  
Ford, Shapland  
Townsend (Excter)

**LANOLINE**

Haller and Co.

**LARD**

Ewen, J.

**LEATHER**

Shaw, Alexander and John

**LEECHES**

Butler, McCulloch  
Fitch and Nottingham  
Potter and Clark

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Craven, M. A., and Son

**LIME JUICE**

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Harris and Co.  
Montserratt (See Evans)  
Riddle and Co. (Stowers)  
Ross and Co.

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Kemp, W., and Sons  
Mumford

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Newsome (Surgeons  
Robinson and Sons  
Seabury and Johnson

**LOOFARS**

Lynch and Co.  
Maw, Son and Thompson  
Toogood

**LOZENGES**

Blyton, T. Bage, and Co. (Me-  
dicated)  
Craven, M. A., and Son  
Gibson, R. (Manufacturer)  
Kamoldt's Aperient

**MAGNESIA**

Dinneford (Fluid)  
Murray, Sir James (Fluid)

**MALT EXT., ETC.**

Burroughs, Wellcome and Co.  
(Kepler's)

**MARKING INKS**

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Christian, J.  
Clarke, J. T.  
Murphy, J.

**MENTHOL**

A. I. Menthol Depot, J. G.  
Shirley, Proprietor  
Boehm, J. (Charmes)  
Christy and Co. (Cones)  
Cocking and Co.  
Hockin, Wilson & Co.  
Metz, P. ("Acme" cones)  
Todd, A. M.  
Dundas, Dick & Co.  
Maw, S., Son and Thompson

**MERCURIALS**

Ensh, W., and Co.  
Howards and Sons  
May and Baker

**METALLIC CASKS,****DRUMS, & KEGS**

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Phillips G., and Co.

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Bracher and Co.  
Follows and Bate  
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**MORPHIA**

Macfarlan and Co.  
Smith, T. and H.  
Wink, J. A., and Co.

**MUSE**

Symes and Co. (Thibet)

**MUSTARD**

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Johnson, J. H. and S. (Ess. Oil)

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**OILS, PAINTS, &c.**

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Follows and Bate (Mill)  
Holt, A., and Co.  
Peace, J. R., and Co.

**OINTMENT BASES**

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Chesebrough (Vaseline)  
De Pass, E. A., and Co. (Petro-  
lina)  
Evans, Sons & Co. (Fossiline)  
Grindley (Petroleum Jelly)  
Haller and Co. (Lanoline)  
Samders, C.

**PAPAIN**

Christy, T., and Co. (Papaine-  
Christy)  
Kühn, B. (Papain-Finkler)

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Sanitary Paper Co.

**PARALDEHYDE**

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Horu and Son

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Barclay and Sons (General)  
Beecham (Pills)  
British College (Morrison's)  
Burgess, E. (Lion Chintant)  
Davenport (Chlorodyne)  
Edwards and Son  
Fennings' (Powders)  
Freeman, R. (Chlorodyne)  
George and Welch (Liver)  
Harris's Indian Remedies  
Holloway (Pills and Oint.)  
Hop Bitters  
Horsford (Acid Phosphate)  
Howell (Golden Herb Pills)  
Key Bros.  
King, A. H. (Hop Bitters)  
Lairitz's Pine Wool  
Lalor (Phosphodyne, &c.)  
Lincoln (Clarke's Mix.)  
Lenaroy E. B. (Kof Kur)  
Morris, S. (Manazel Stomach  
Drops)  
Munday, J. (Injection Day)  
Newbery and Sons  
Richards, J. M. (American, &c.)  
Roberts, Foreign  
Sanger and Sons  
St. Jacobs Oil  
St. Dalmas (Bronchial, &c.)  
Smith (Antibiliary Pills)  
Spratts (Locurium Oil)  
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Stedman (Teething Powders)  
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De Pass & Co. (Peach Blossom  
Soap)  
Ewen (Soaps)  
Houbigant (Perfume)  
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Mouson and Co. (Toilet  
Soap, &c.)  
Newbery  
Pears, A. and F., Soap  
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Rowland and Son (Various)  
Sainsbury, S. (Lav. Water)  
Shaw, Alex. and John (Per-  
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West, T. (Okeil's Mona)  
Whitaker and Grossmith  
Woolley, Sons and Co. (Powder)  
Yardley and Co.

**PEPSINE, &c.**

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Burroughs, Wellcome  
Jensen, C. J.  
Keene and Ashwell  
Savory and Moore (Pancreatic  
Emulsion, Peptonised Milk)  
Warner and Co. (Ingulvin)  
Zimmermann

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Dunn and Co.  
Robbins

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May and Baker  
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Clarke, Bleasdale and Co.  
Dodd and Co.  
Holloway  
Howell  
Simpson's Herbal  
Smith, W. F.  
Warner, W. R. (Coated)  
Wyleys and Co. (Gelatin Oval)



**PHARMACEUTICAL PREPARATIONS**

Allen and Hanburys  
Baiss Bros.  
Barron, Squire and Co.  
Battle and Co. (Bromidia)  
Burgoyne, Barbidge and Co.  
Burroughs, Wellcome (Various)  
Chevalier, F. (Solubles)  
Clay, Dod and Co.  
Duncan, Flockhart  
Fletcher, Fletcher, and Steven-  
son  
Gibson, R. (Lozenges)  
Harker, Stagg (Various)  
Hewlett and Sons  
Howards and Sons  
Kay Bros.  
Keith (Cone, Tinctures)  
Martindale (Nitroglycerine)  
Newton, Robinson and Co.  
Stearns (Non-secret)  
Wink, J. A., and Co.  
Woolley, Sons  
Wright, Layman and Umney  
Wyles (Various)

**PIG POWDERS**

Spong

**PITCH**

Peace, J. R., and Co.

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Gibbs, Cuxon and Co.  
Mather, V.  
Quilliam, J., and Co.  
St. Dalmas, A. De  
Seabury and Johnson  
Taylor, E.

**PODOPHYLLIN, &c.**

Keith, B., and Co.  
Smith, T. and H.

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Bradley, Bourdas (Albatum)  
Day and Raisbeck (Steel)  
Oakley, John, and Sons  
Pickering and Sons  
Seeger, H. (Pomatum)

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Poth, H., and Co.  
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Lorimer, Co.

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Hassall, Thos. (Bay)

**SANTONINE**

Bieber, J. D.

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Lazenby (Harvey's)  
Tyner

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Edinburgh Classes  
Liverpool School  
London Homoeopathic  
Manchester College  
South London School  
The School of Pharmacy  
Tully, J.  
Westminster College

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Stedman

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British Syphon Mfg Co.  
Gucret Frères  
Idris and Co.  
May, Roberts

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Hovenden (Euxesis)  
Lloyd, A. S. (Euxesis)

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Curtis, J., and Son  
Howlett, S.  
Lemaître, W., and Co.  
Tomlinson and Sons  
Treble, G., and Son  
Yates, W. S.

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Jones and Mason (Methyl)  
Manair, A. (Pure)  
Phillips, G., and Co. (Pure)

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Dukas and Co.  
Peterson, M.  
Schutze and Co. (Bags)

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Lindner, M.  
London Rubber  
Richford, E. M.

**STARCH**

Critchley (Gloss)  
Harrop's Glaze  
Rosenthal

**SURGICAL**

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Bailey, W. H., and Son  
Cetti, E.  
Colwell  
Eschmann Bros. and Walsh  
(Catheter)  
Gibbs, Cuxon and Co. (Dress-  
ings)  
Haywood, J. S.  
Hodge and Co.  
Hooper and Co. (Water Beds)  
Jensen, C., and Co. (Pallas  
Syringe)  
Lynch and Co.  
Manson and Schramm (Elastic  
Gum)  
Maw, Son and Thompson  
Powell and Barstow (Elastic  
Gum)  
Schutze, F., and Co.  
Scott, W. A. (Instrnts, etc.)  
Seabury and Johnson (Tissues)  
Stephenson and Travis  
Thompson, Millard

**STOPPERS**

Austin and Co. (Sprinklers)  
Brooke, Peel (Sprinklers)  
Vallet

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Hoskin, W.

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Gucret Frères  
Idris and Co.  
Lang, J., and J.

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Burroughs, Wellcome, and Co.  
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Stevenson and Howell (Ameri-  
can Foam)

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Edwards, E. M. (Ceylon)  
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Bush, W., Son and Co.  
Clay, Dod and Co.  
Evans, Lescher and Webb  
Evans, Sons and Co.  
Evans, Sons and Mason  
Harker, Stagg and Moss  
Hearon, Squire  
Hewlett and Sons  
Langton, Edden, Hicks and  
Clark  
Potter and Clarke (American,  
&c.)  
Southall Bros. and Barclay  
Stevenson and Howell  
Sumner, R., and Co.  
Thompson, Henry Ayscough  
and Son  
Thompson, Millard  
Typke and King  
Woolley, Jas., Sons and Co.  
Wyles and Co.

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Of Patent Medicines, &c., Druggists' Sundries, &c., &c.,  
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PERFUMES IN SHOW BOTTLES (from 11 6 each).

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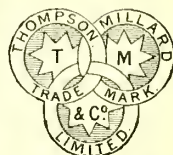


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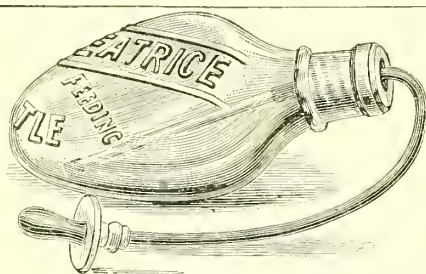


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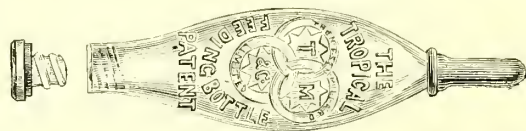
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THE "BEATRICE" FEEDING BOTTLE.

With opal glass screw stopper, best black rubber fittings, each in handsome shouldered box arranged to stand the feeder in while filling, and tube and bottle brush, per dozen 8s, subject to usual discount. This Feeder combines the advantages of the straight and bent neck bottles, can be laid on either side without leakage, and is easily cleaned.



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THOMPSON, MILLARD & Co.'s new PATENTED Boat-shape Feeding Bottle. Fitted with screw glass stopper or metal screw cap at end to allow of cleaning. In two sizes. Illustrated Price List on Application.

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Our goods give universal satisfaction, and buyers may with confidence favour us with a Trial Order.

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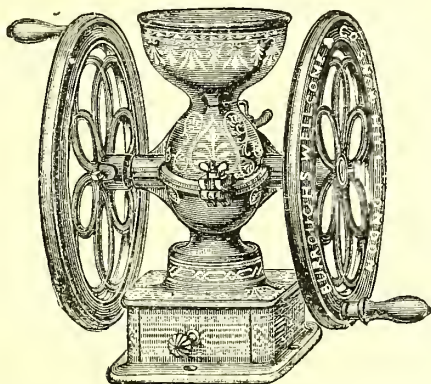
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DRUG MILL.

CONSTRUCTED ON AN IMPROVED PRINCIPLE.

This is certainly the most perfect machine for grinding drugs that has yet been invented, both as regards simplicity of parts and efficiency in working.

A great improvement has been effected in this Mill. The grinders or cutters are now cut to a much keener edge than before, thus ensuring a closer contact and reducing the



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This Mill can be regulated to grind to any degree of fineness or coarseness required, and by the mere turning of a thumb-screw can be opened and the cutters removed in a minute.

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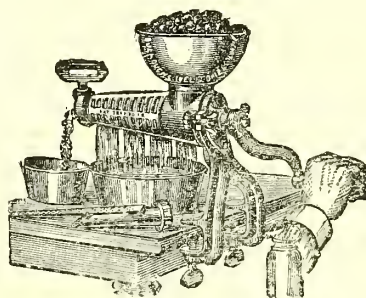
In this Mill ALONE there is no danger or loss resulting from grinding any number of different substances in succession, because between each operation the Mill can be opened, the cutters taken out, cleaned, and replaced with the greatest ease.

Professor Matsch, Philadelphia Coll. of Pharmacy, U.S.A., says:—"The best Mill that has been devised. One of the prominent advantages is the facility with which the internal working parts can be viewed by simply turning one screw."

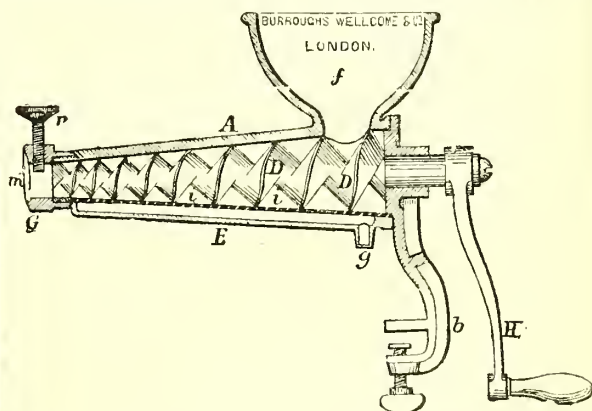
The prices are as follows:—Three Sizes (Ornamental), £2 10s.; £3 10s.; £5 10s.; Three Sizes (Plain), £2; £3; £5. Subject to the usual Discount.

THE  
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The principle upon which the Press operates is, that the drug is acted upon in a continuous thin layer, which is forced forward by each revolution of the screw into smaller and smaller space, the leverage yielding a force so powerful as to extract almost the entire moisture, delivering the residue of suitable drugs with almost crisp dryness, and, as experience has shown, it saves a greater amount of tincture (very important in the case of Tincture of Opium and other expensive drugs) than even the most



powerful hydraulic press. So thorough is its action in this respect, that the *Chemist's Journal* has humorously remarked of it, that "it will almost squeeze blood out of a turnip." One firm informs us that they have saved at least £20 more in three months by the use of this Press than they could secure by using any other. The working of this Press being



continuous, either small or very large quantities may be operated upon at one time, and much more rapidly than in any other form of apparatus.

The fact that drugs require handling but once, that the use of press cloths is done away with, and that the operation is continuous, shows a great advantage in this Press over any other.

Price 15s. Subject to the usual Discount. Obtainable from every Wholesale Druggist.

The Sole European Agents are BURROUGHS, WELLCOME & Co., Snow Hill, London.



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**CAUTION.**—The Trade are cautioned that the word "VASELINE" is a fancy name originated by and registered as the Trade Mark of this Company for the various preparations of Petroleum Jelly manufactured by them.

It has been on the Register 8 years and is their absolute property, and cannot be used in connection with any goods not manufactured by this Company.

Our supplies of 5 lb. TINS are coming forward in larger quantities than heretofore, and we hope soon to catch up with all back orders. We have always been ready to fill all orders for any of the other preparations.

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# LANOLINE LIEBREICH

Is the best Basis for Ointments, and the most effective and beneficial Agent in Cosmetical Preparations.

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It shows the closest affinity to the skin, and has a greater power of resorption than any other Ointment Base.

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*Drugs, Chemicals, Pharmaceutical Preparations.*

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PATTINSON,  
and COMP<sup>y</sup>.,  
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DRUGGISTS

MANUFACTURING  
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Vegetable Colours  
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## ANOTHER POST-CARD COMPETITION.

We will give one guinea for the nearest guess at the result of the next election for the Pharmaceutical Council. The candidates are:—Messrs. C. B. Allen, H. B. Baildon, J. Bolland, A. Bottle, W. G. Cross, T. P. Gostling, T. Greenish, J. Harrison, W. N. G. Lance, J. Mackenzie, J. Maltby, W. V. Radley, W. D. Savage, A. Southall, G. F. Schacht, H. N. B. Spink, P. W. Squire, C. Symes, J. Williams, G. S. Woolley, J. R. Young. It will be necessary for guessers to present *all* the above in anticipated order, but the score of votes need not be given. Competitors for this prize must be subscribers or employés of subscribers. As an indication of the way we shall estimate the guessers, we may say that, other things being equal, we should consider that a man who guesses the first half correctly, is better than the one who guesses the last half correctly; and in the event of anything like equality in the accuracy of the guess we shall give the guinea to the guesser whose post-card reaches us earliest. Guessers will please not to write about any other subject on the post-card which contains their prediction. Post-cards will be received for this competition up to Tuesday, May 11.

\* \*

Sir William Jenner has been re-elected President of the Royal College of Physicians. He secured 89 votes, while eight other aspirants to the chair received amongst them a total of 40. This is the sixth time that the veteran physician has been elected to the honourable position.

\* \*

The income of the British Medical Association for 1885 was 23,713l. 4s., of which 11,812l. 16s. 3d. was from sub-

scriptions, and 10,564l. from advertisements and sale of the *British Medical Journal*. The cost of the journal was:—Editorial, 3,098l. 5s. 5d.; printing, 9,307l. 16s. 6d.; and commission on advertisements, 1,632l. 18s. 8d.; altogether, 14,039l. 0s. 7d. All other expenses in connection with the Association amounted to 6,361l. 2s. 8d., so that the year ended with a balance of 3,313l. 0s. 9d. to the good. The invested funds of the Association now amount to close on 20,000l.

\* \*

The English chemical societies might follow the example set them by the Paris Chemical Society, whose recent interesting exhibition of rare products and new apparatus we report on another page. Chemical science would certainly be stimulated by periodical opportunities of seeing the actual evidence of progress. There is no good reason why scientific workers should not have their annual display, like artists have theirs. With an influential and competent committee of selection, a brilliant representation of the year's work might be brought together annually.

\* \*

Novelties in aerated beverages, or at least in the titles of such, seem to be coming forward, if we may judge from the applications for trade-marks. One maker carries his earnestness almost to the point of libel, his proposed title, "Anti-Burton," being pictorially illustrated by a knight attacking a serpent, which, we suppose, represents poor Burton-on-Trent, and bears on its body the words, "Alcohol, drunkenness, ruin." Another manufacturer of non-alcoholic beverages adopts a smart idea for competing with the common enemy by adopting his old-established title, "Mild ale," for a trade-mark.

\* \*

INDIAN "MIXTURES."—Lord Reay, at the close of a public speech in Bombay, thus referred to the experience of his recent indisposition:—"I went first of all to Rajputana, and on the first symptoms of my illness being manifest was administered 'the mixture.' I then went to the Punjab, and there got a fluid also called 'the mixture.' I then went to the North-Western Provinces, and there also I was greeted by my friend 'the mixture.' But of all things, what I have as yet not fathomed is this: that 'the mixture' was not the same mixture, but was on all three occasions entirely different in colour and in taste. Whether this is to be accounted for by a different edition of the pharmacopœia being used in those parts of India, at all events, I take it as a pleasant symptom that decentralisation still prevails."

\* \*

THE SHOP HOURS REGULATION BILL.—The *Daily News* says: Sir John Lubbock may be sanguine in his estimate that ninety-five out of every hundred tradesmen support the measure; but it is quite clear that there is a very widespread feeling among the better class of shopkeepers in favour of compulsory closing. We confess that it scarcely seems possible at present to carry out so drastic a scheme. Perhaps the best solution of the question for the present would be to enact that the young people to whom the measure applies should be employed not more than seventy-two hours in the week, and to leave further measures till a clear expression of public opinion on the matter has taken place. The *Echo* says: The controversy over Sir John Lubbock's Shop Hours Bill is bringing out very plainly the difficulty of affording relief to the young people the Bill is intended to protect without compulsory closing and the infliction of injustice. As the Bill stands it does not affect the numerous class of small tradesmen who employ no assistants, and an effort will be made to include them in the scope of the Bill. But why should they be included? Most of their trade is done in the evening. As a rule they do not employ assistants, and it would be a great inconvenience to their customers if they were compelled to shut early. If there is to be limitation of labour in shops, the simplest, and probably the most effective, plan would be to compel all shopkeepers to close at a certain hour; but Parliament would be slow to assent to that, nor do we believe that the people would acquiesce in the limitation for any time, even if Parliament could be persuaded to approve it.



## CONGRESS OF CHAMBERS OF COMMERCE OF THE BRITISH EMPIRE.

The arrangements for this important congress, which is being organised by the London Chamber of Commerce, are making satisfactory progress. It has been decided to hold the congress at the Colonial and Indian Exhibition on Tuesday and Wednesday, July 6 and 7, from 10 A.M. to 4 P.M.; and that the meeting will be thoroughly representative of the entire empire will be seen from the following list of bodies which have given notice of their intention to send delegates:—From the United Kingdom, the Chambers of Commerce of Barrow-in-Furness, Birmingham, Cardiff, Cleckheaton, Derby, Dewsbury, Dudley, Falmouth, Halifax, Leeds, Liverpool, Middlesbrough, Morley, North Shields, Nottingham, Oldham, Portsmouth, Southampton, Sunderland, Walsall, Warrington, Wolverhampton, Worcester, Aberdeen, Dundee, Leith, South of Scotland, Belfast, and Jersey; from Australasia, the Chamber of Manufactures of Adelaide, and the Chambers of Commerce of Adelaide, Sydney, Melbourne, Christchurch, Napier, Nelson, Auckland, Dunedin, Wellington, and Launceston; from Canada, the Boards of Trade of Toronto, Montreal, Quebec, and Hamilton; from China, the Chamber of Commerce of Hong Kong; from India the Chambers of Commerce of Bombay, Bengal (Calcutta), Madras, Colombo (Ceylon); from Indo-China, the Chambers of Commerce of Rangoon and Singapore; from South Africa, the Chambers of Commerce of Cape Town, Durban, Mossel Bay, and Port Elizabeth; from British Guiana, the Royal Agricultural and Commercial Society; from the West Indies, the Chambers of Commerce of Barbados and Trinidad; and the British Chamber of Commerce of Paris. Up to the present the committee have decided to submit the following seven questions for discussion:—Emigration, Postal and Telegraphic Reform, Imperial Federation, Codification and Assimilation of the Commercial Law of the British Empire, State Guarantee of War Risks, the Silver Question, and Bills of Lading Reform.

\* \*

## CHARGE OF MANSLAUGHTER AGAINST A MEDICAL ASSISTANT.

At Worship Street Court on Thursday, Absalom William Head, an unqualified medical assistant, was again brought up on a charge of manslaughter. The circumstances of the case were fully reported in *THE CHEMIST AND DRUGGIST* of last week. For the defence, the employer of the accused, Dr. F. Money, of Pimlico and East Road, and others, gave evidence, and maintained that the draught dispensed by Head was a proper one.

For the prosecution Dr. Bagster-Phillips, the police surgeon, was called, and he expressed a contrary opinion. He thought that a skilled person could have previously discovered the fact that the deceased suffered from a weak heart, on which the effect of chloral would be pernicious. Under those conditions the prescription of the prisoner was in itself highly indiscreet. He also thought that even the smaller dose prescribed on the label was an excessive one, and would perhaps have caused death were the man perfectly healthy; but the effects were uncertain. After further evidence the solicitor for the defence submitted to the Court that there was nothing in the case for the prosecution which would justify the prisoner being committed for trial. Mr. Bushby, however, said that he could not withdraw the case from a jury after the evidence of the police surgeon. On the evidence of Dr. Money, the prisoner's employer, the case would be different, but the testimony of Dr. Phillips put a serious complexion on the matter, and he should therefore commit the prisoner for trial.

\* \*

Soda is now manufactured on a large scale at Mannheim and neighbourhood. Formerly the complaints of German producers or chemists, who wished a duty to be imposed on this article, were directed against England, but a large German firm, *à propos* of the imposition of a tariff for the three different qualities of soda produced, gave it as their opinion that the German soda industry has no longer to struggle in its own markets with the English competition, as the exports of English soda—and England is the only country which sends this article to Germany—are diminishing every year.

## DIARY FOR NEXT WEEK.

*Monday, May 3.*—Society of Chemical Industry, Burlington House, Piccadilly, 8 p.m. Mr. A. G. Salomon, F.C.S., on "The Purification of Water;" Messrs. Macnab and Beckett on "The Treatment of Water for Technical Purposes."

*Tuesday, May 4.*—Royal Institution, Albemarle Street, 3 p.m. Professor Arthur Gamgee, M.D., F.R.S., "The Function of Circulation."

Bark Sales, 6 Mincing Lane, 1 p.m.

Drysaltery Sales, Commercial Sale Rooms, Mincing Lane, 1 p.m.

Opening of the Indian and Colonial Exhibition, South Kensington.

*Wednesday, May 5.*—Pharmaceutical Council, 17 Bloomsbury Square, W.C., at 11 a.m.

Spice Sales, Commercial Sale Rooms, Mincing Lane, 12.

*Thursday, May 6.*—Royal Institution, Albemarle Street, 3 p.m. Professor Dewar, M.A., F.R.S., &c., on "The Alkaloids."

Chemical Society, Burlington House, 8 p.m. Ordinary Meeting.

Gum and Wax Sales, Commercial Sale Rooms, Mincing Lane, 11.30 a.m.

Linnean Society, at 8. "On Seedlings," Sir J. Lubbock; "Physiological Selection: an Additional Suggestion on the Origin of Species," G. J. Romanes.

Opening of International Industrial Exhibition, Edinbro.

Society of Arts, at 8. "The Commerce and Industries of New South Wales," Edward Combes, C.M.G.

*Friday, May 7.*—Royal Institution, Albemarle Street, 9 p.m. Frederick Siemens, Esq., on "Dissociation."

## Personalities.

MR. HUBERT N. B. RICHARDSON.—On April 12, Captain J. G. F. Richardson, of Leicester, gave a dinner to all the employees of his firm (John Richardson & Co.) to celebrate the coming of age of his eldest son. The Mayor and several other prominent townsmen were among the company. An illuminated address from the staff to Mr. Hubert Richardson was presented in the course of the evening, and many speeches and songs enlivened the proceedings.

## Trade Notes.

MESSRS. FITCH & NOTTINGHAM, leech importers, have removed from Pentonville Road to 4 Canonbury Square, London.

MESSRS. EVANS, SONS, & MASON (Limited) have purchased the right to manufacture in Canada chloroform by the new acetone process.

MR. R. H. RENDLE, of Devonport, has purchased the business of the late Mr. Burchwood, of Frankfort Street, Plymouth.

We have received from Messrs. Fletcher, Fletcher, & Stevenson a sample of hydrochlorate of cocaine in exceptionally fine large crystals. The salt on examination presented all the characteristics of pure cocaine hydrochlorate, and showed freedom from secondary products. As an indication of the extent to which cocaine is used, it may be stated that this firm has sold more than 10,000 grammes of this special make within the past few months.

STEELE'S PACKETED CHLORINATED LIME.—We have received from Messrs. John C. Steele & Co., of Glasgow, a sample packet of chlorinated lime, and may call attention to this convenient form for retailing an article of common consumption. The tendency with chemists is to discourage rather than cultivate the chlorinated lime trade, but when such packets as Steele's can be got the article is placed on a footing almost with such odoriferous adjuncts of pharmacy as Jockey Club. The packets are air-tight and waterproof, and are admirably adapted to retain the full chlorine strength of the bleach. The wholesale prices are little above the actual cost of the chlorinated lime, and the article is packeted only in saleable quantities. Mr. William Young, 42 Cheap-side, is the London agent, and the goods may be obtained in any quantity through ordinary channels.



## Provincial Reports.

### BIRMINGHAM.

(Special Correspondence.)

A CHEMIST, well known in this town, had two rather out-of-the-way cases to deal with during the past week. The mother of a large family had purchased a shilling box of "Bird's Pink Powders for Children" (powders which are as well known in the Midlands as Pritchard's in the North, or Steedman's in the South of England), and had carelessly placed them on a sideboard. A short time afterwards she discovered the empty wrappers of fourteen powders scattered about the room, and after inquiry two tiny delinquents owned to the mischief. The mother hurried to the chemist for advice. Some diarrhoea mixture and lime water warded off what might have been serious consequences. In the other case, a gentleman had swallowed half-an-ounce of iodine tincture in error for tincture of rhubarb, but perceiving his mistake, he hurried to the chemist, who supplied him with copious draughts of mustard and hot water, with flour and starch drinks *ad libitum*, which antidotes met with the approval of the family medical man, who was subsequently called in, and the patient returned home vowing never to have tincture of iodine in his house again.

### DEVONPORT.

**SUDDEN DEATH OF A CHEMIST.—STRANGE DISCLOSURES.**—Last Friday afternoon a man was seen to stagger and then fall to the ground whilst walking along Molesworth Road, Stoke. Mr. W. H. Clarke, a member of the Devonport Town Council, ran to see what was the matter, followed by Mr. W. H. Russell Buchan, a medical student who was passing. The man shouted out as they reached him, "I want potassium and brandy." Mr. Clarke obtained some of the latter and a chair, and with some difficulty the sufferer was forced into the seat. A cab was then procured, and the man was about to be placed in it when he was seized with an epileptic fit and died. The body was removed to a garden close by, and after a delay of two hours, due to the want of a suitable stretcher, the body was taken to the mortuary. Mr. F. E. Row, divisional superintendent, examined the body, with Dr. Cutcliffe, preparatory to the inquest. Deceased was named Jesse Inkley, was from Tamworth, and was a chemist out of employment. He had come to Plymouth a short time before with the hope of filling a post in a dispensary, but the situation had been filled up. He is a middle-aged man, and leaves a widow at Tamworth. The inquest was held on Saturday at the Guildhall by Mr. J. Vaughan, the borough coroner, a double jury being sworn. Evidence was given as to the circumstances of the deceased's death, and several witnesses stated that he was in a despondent frame of mind for several days previous. John H. Filmer, chemist's assistant, at 26 King Street, Plymouth, deposed that he supplied the deceased with a pennyworth of methylated spirit about ten o'clock on Friday morning. Shortly before eleven deceased came to the shop again, and asked for 6 grains of acetate of morphine, saying he wanted to use it as a subcutaneous injection. In answer to witness's question deceased said that a dose was a sixteenth to an eighth of a grain. Witness would not have supplied deceased with the morphine if he had not been satisfied that he was a chemist. Surgeon-Major Gabbett, of 4 Molesworth Terrace, Stoke, stated that he was called upon to attend deceased. Though it was reported that he was dying, he found deceased conscious, and entered into conversation with him. He stated that he had been drinking heavily the previous night, and had taken more that morning on an empty stomach. He stated that he was not in pain. Having suspicion that deceased had taken poison a post-mortem was made, but no poison was found in the stomach, and it was his opinion that the man died from an epileptic fit. Cross-examined by the coroner, witness adhered to his statement that there were no traces of poison, or of recent excessive drinking. A depressed state of mind would tend to cause the epileptic fit to be fatal.

The coroner, in summing up, remarked that Mr. R. H. Rendle, 22 Albert Road, Morice Town, chemist, had mentioned to him that the deceased had been in his employ for about seven weeks, during which he saw that he was peculiar. Mr. Rendle found his service unsatisfactory, and in consequence he gave him a month's notice. He was very depressed at leaving, and Mr. Rendle endeavoured to get the man a situation, but failed. Mr. Rendle understood that before the deceased left Tamworth he paid the premium due on his life, and had been straitened to do it. The coroner thought it was a very important fact that deceased had bought the poison—what was done with it they did not know; it was not found upon him. It seemed as though the deceased wanted to resist being taken care of, and he (the coroner), knowing that any insurance-office would require to be satisfied whether this man had taken his life or not, thought the truth should be made manifest by a post-mortem. He was satisfied with the result, as it would assist in getting the money due on the deceased's life, and had cleared up all doubts as to his having taken poison. He thought that the evidence showed that death was due to natural causes, and a verdict accordingly was returned.

### LIVERPOOL.

**THE REGISTERED CHEMISTS' ASSOCIATION**, the parents of the "Liverpool Price List," and the local organisation for trade matters, as distinct from the "Chemists' Association," which has for its objects the advancement of pharmacy and other kindred matters of light and leading, held its annual meeting the other day. The report and treasurer's financial statement were submitted, and, both being considered very satisfactory, were passed unanimously. Upon the motion of Dr. Symes, seconded by Mr. Redford, the President, Mr. Joseph Woolcock, C.C., was re-elected for the ensuing year. It is a thousand pities that there should be such a waste of force as is here displayed in the co-existence of two associations. Each has a certain *raison d'être*; neither justifies its existence sufficiently to enable it to swallow up the other. The Chemists' Association cannot allow trade questions to come "between the wind and its nobility"; the "Registered" Association, having produced a price-list, which is a very good list and pays its printer well, maintains a position of masterly inactivity. Away with such droning! An association must show better cause for collecting subscriptions than either publishing proceedings in pharmaceutical papers or holding annual suppers—which are annual agonies to the executive lest they should involve a loss.

### MANCHESTER.

**DEATH FROM DRINKING CAUSTIC POTASH.**—An inquiry was held at the Manchester City Coroner's Court, on April 22, before Mr. S. Smelt, deputy-coroner, into the death of Wm. Edwards, aged 44, a mason, living at 63 Mill Street, Bradford. From the evidence it appeared that deceased was in the habit of frequenting a dispensary, in which a Mr. J. W. O'Hea was assistant. Here, with others, he joined O'Hea in card-playing and drinking, and on January 9, while in a state of intoxication, took a draught from a bottle which contained potash solution. O'Hea administered an emetic composed of butter and water. Dr. William Pitman, 38 Ashton New Road, deposed to attending deceased on January 10. He was suffering from acute inflammation of the throat. After six weeks' attendance he advised that deceased should be taken to the Infirmary. Mr. Malcolm Webb, resident medical officer at the Royal Infirmary, said that the deceased was admitted on February 12, suffering from stricture of the gullet and ulceration of the stomach. He gradually got worse, and died on April 19. The jury found that the deceased had died from the effects of drinking a poison, and censured Mr. O'Hea for his conduct in allowing people to be drinking in his surgery with poisonous drugs within reach. Mr. Smelt also said to O'Hea that his conduct had been highly reprehensible, especially for one who knew as much as he professed to do about drugs. He might think himself fortunate that the jury had taken a favourable view of the case. He had better take warning, and alter his present practices, or he would be certain to suffer.



## PLYMOUTH.

WE notice that Mr. Alfred P. Balkwell, pharmaceutical chemist, has been elected a Guardian for Charles Parish. Mr. Balkwell headed the poll with 1,688 votes—a number exceeding that secured by the top man last year, and 73 ahead of the second successful candidate.

## SHEFFIELD.

**SUICIDE OF A MEDICAL MAN.**—A medical officer at Sheffield, Dr. Wood, committed suicide on Saturday, April 24, under tragic circumstances. He had been attending to his patients during the day, and at night, when in his drawing-room, took a large dose of chloral. He was found soon after by his wife, and every effort was made to avert fatal results, but with no effect. He leaves a widow (a Scotch lady) and one child. Dr. Wood's friends live at Manchester.

## STOCKTON.

**THE ADULTERATION ACT.**—The local authorities are particularly energetic at present in enforcing the Adulteration Act. On Monday four persons were fined in sums of from 5s. to 20s. and costs for selling yeast adulterated with potato starch. One dealer was fined 20s. and 13s. costs for selling pepper containing 20 per cent. of rice flour; another got off with 10s. and 9s. 6d. costs for a pepper which contained 10 per cent. of sand. This is at the rate of 1s. for each unit of percentage. Convictions were also obtained in several cases of milk and coffee adulteration.

## STONEHOUSE.

**ELIZABETH CARNE**, a single woman of 54, was charged at the Police Court on April 25 with attempting to commit suicide. From the evidence it appeared that laudanum, purchased on written order from Mr. James Cocks, chemist, was the substance taken, but the quantity (a pennyworth) was too small to do any harm, and as there was some doubt as to the intention of the prisoner, she was dismissed.

## WORCESTER.

**SUDDEN DEATH OF A CHEMIST.**—On April 24 Mr. Hulme (deputy-coroner) held an inquest at the Guildhall, touching the death of Charles Masters, 77, of New Street, who died suddenly on the previous evening. The deceased was seized with illness, and before medical aid could be procured he died. Dr. Crowe, who had made a post-mortem examination of the body, stated that the cause of death was syncope, arising from the diseased condition of the heart and lungs. The jury returned a verdict accordingly.

## YEovil.

At Yeovil, James Palmer, a chemist of Martock, was charged on Friday, April 23, with stealing a watch, the property of a painter named Davies. Prisoner is in the habit of prescribing for the poor people of Martock, and had supplied medicine for a relative of prosecutor's. Believing that the watch belonged to the person whom he had treated, but who had not paid him, he took it, and was soon afterwards apprehended. He was sentenced to three weeks' imprisonment.

## SCOTLAND.

## CAMBUSLANG.

**ACCIDENTAL POISONING.**—Janet McIntock, five years of age, daughter of John Martin, steelworker, having been complaining of toothache, her mother gave her a dose of what she supposed was Epsom salts. The girl immediately became sick, and died before medical aid could be obtained. A post-mortem examination showed that she had been poisoned by salt of sorrel. The Procurator Fiscal for the Hamilton district is inquiring into the sad affair.

## DUNDEE.

LAST week a fire occurred in the warehouse of Messrs. Johnston & Adams, drysalters, Murrygate. An employé, in drawing off some methylated spirit from a cask, had acci-

dentally allowed a spark of fire to ignite the spirit, and in a few minutes the warehouse was in a blaze. The fire brigade managed to put out the flames before much damage was done.

**ATTEMPTED SUICIDE.**—Rose Ann Reilly, or McGuire, an elderly woman residing in Hean's Lane, Dundee, attempted to take away her life on Sunday last by swallowing a large dose of calomel. Dr. Hodge was promptly in attendance, and under his treatment the woman is recovering.

## EDINBURGH.

THE old-established business of Mr. David Steel, pharmaceutical chemist, Lothian Road, has been purchased by Mr. J. Merson Grant, who for several years has been an assistant with Messrs. Smith & Bowman, Leith.

The Industrial Exhibition is in a forward condition, and promises to be a great success. Pharmaceutical exhibitors are not behind their neighbours, and Scotch firms have got their cases in position, and almost ready for the opening day. One of the exhibits first in the field was in a hopeless mess a few days ago. This exhibit included a number of oils, which were shown in inverted bottles; provision had not been made for expansion, nor any means adopted to prevent leakage, and the result was that a hot day induced part of the specimens to try the influence upon them of the genial air of the meadows. The case now requires some cleaning.

**CHEMISTS' AND DRUGGISTS' TRADE ASSOCIATION OF GREAT BRITAIN (SCOTTISH BRANCH).**—The annual meeting of the above branch was held in 5 St. Andrew Square to-day, Mr. Mackenzie (President) in the chair. There was a fair attendance. The Scotch dispute with the Pharmaceutical Society and patent medicines were the chief subjects of discussion. The following gentlemen were elected office-bearers for the year, viz.:—Mr. Mackenzie (Edinburgh), President; Mr. John Macmillan (Glasgow), Vice-President; George H. Laird, Honorary Secretary; and as Members of Executive,—Messrs. James Mackenzie (Edinburgh), James Paterson (Aberdeen), George H. Laird (Edinburgh).

## CHEMICAL SOCIETY.

A MEETING was held on April 15, Dr. Hugo Muller, F.R.S., in the chair. The papers read were on "The Eurlhodines, a New Class of Colouring Matters." By Otto N. Witt, Ph.D.

"The Action of Sodium on Ethereal Salts of Phenylacetic Acid." Part II. By W. R. Hodgkinson. In this communication the author drew attention chiefly to the solid substance produced in small quantity by the action of sodium on ethyl phenacetate (phenylacetate) referred to in a previous paper. The products of the reaction were stated to be ethylic acetate; an oil to which the formula  $C_{18}H_{20}O_2$  was provisionally given; phenylacetic acid, and the solid body. On examining larger quantities of the oil it was found that it was not a uniform substance, being decomposable into substances of high boiling-point and giving off water. Treated with alcoholic potash the crude product yields phenacetic acid and a more stable oil, principally consisting of a substance which boils at 320–325°, and has the composition of dibenzylketone. The solid substance produced during the decomposition may be obtained as a sodium derivative, but it is not an acid, and has the formula  $C_{18}H_{18}O_2$ . The following are its principal characters:—It is almost insoluble in water, and has no action on test-paper; the aqueous solution gives a deep red coloration with ferric chloride. It dissolves in strong solutions of potassic carbonate, and in dilute alcoholic potash without carbon dioxide being evolved; it slowly dissolves in sulphuric acid, and is reprecipitated by water if the acid be not heated. It reacts with ammonia and with hydroxylamine. It is oxidised with difficulty, and yields a product which is not an acid. It melts at 175°; the fused substance solidifies to a glassy mass which softens at 100° and then assumes a crystalline state, and melts as before at 175°. The author gives reasons for assuming that the substance is a triphenylphloroglucin ( $C_6H_5$ )<sub>3</sub>C<sub>6</sub>H<sub>3</sub>O<sub>3</sub>.

A paper of a chemico-physical nature was also read on "The Action of Metals on Acids." By Henry E. Armstrong.



## THE STUDY OF PHARMACEUTICAL CHEMISTRY.

By JOHN CLOUGH THRESH, D.Sc., Pharmaceutical Chemist.

*(Concluded from page 350.)*

## A LIVING ILLUSTRATION.

AS an illustration, and to prevent misunderstanding, let us take the common case of a student who fails to recognise by its appearance the red (or yellow) oxide of mercury, and is then told that it is an official chemical, and is requested to apply tests for its identification. The probability is he will commence by dissolving it in acid, pass in  $\text{H}_2\text{S}$  a few bubbles only, get a yellowish precipitate, and at once jump to the conclusion that it is a compound of arsenic, or obtain a black precipitate and treat it with  $\text{AmHS}$  to ascertain its solubility. Asked why he desires to act upon it with  $\text{AmHS}$ , he says because some sulphides are soluble in that solution, and it is not, until one by one the possible black sulphides have been enumerated to him that he discovers (what he acknowledges never to have discovered before) that it is useless applying this test to a black precipitate produced under such circumstances. When advised to heat a little strongly at the bottom of a test-tube, he is at a loss what inference to draw from the result. Finally, after discovering mercury, he will proceed to make solutions and take each formally through his acid charts before offering an opinion as to the nature of the substance under examination. A student who has been properly trained to the use of his observing and reasoning faculties would scarcely fail in the first instance to identify a body with such characteristic physical properties; but if for any reason he did fail, the results of the simple preliminary test would tell him that it could only be the red (or yellow) oxide of mercury, since no other red (or yellow) official substance would be affected in such a manner by the mere application of heat.

This lack of observing and reasoning power is not only exhibited by Minor students, but even by those who aspire to the higher title of "pharmaceutical chemist." It is no uncommon occurrence for such a student to be ignorant of what is meant by "physical characters." Thus at a recent examination a Major candidate, with a sample of caffeine before him, described in writing its physical characters as follows:—"Caffein tastes slightly bitter; it appears when taken to retard the consumption of tissue in the animal economy, being a stimulant, and for this reason producing exhilarating effects when taken for fatigue, &c."

## DETERMINATION OF PURITY.

Strange to say, to become qualified as a chemist and druggist does not necessitate the student having any special knowledge with reference to the determination of the strength and purity of the chemicals he handles. Even the pharmaceutical chemist is only required to be able to detect impurities in the more important chemicals, and to estimate the strength of such preparations as can be determined volumetrically, according to the strict letter of the law as laid down in the syllabus. My remarks under this head will be brief and merely bear upon volumetric determinations. Students who during their apprenticeship have not had the opportunity of practising volumetric analysis should go through a series under the direction of a competent teacher, and should acquire practical experience in making and standardising his solutions. I strongly recommend, when making a volumetric analysis, to take in the first instance a small quantity of the material to be examined, and to run in the standard solution boldly, so as to obtain an approximate idea of the strength of the substance. Then to accurately weigh or measure, as the case may be, sufficient to require from 25 to 50 c.c. of the volumetric solution for its estimation. This is a much more reliable and rapid method of procedure than the one almost invariably adopted. In many cases so small a quantity of material is employed that only a fraction of a cubic centimetre of solution is required, and it is impossible under such circumstances for the determination to be accurate. In other instances so much of the substance is taken that more than one buretteful of the solu-

tion is required, and, as this has been in all probability added drop by drop, the amount of time so wasted is serious.

## ESTIMATION OF ACTIVE PRINCIPLES.

This is a branch of practical work very much neglected by students, and I am afraid the reason is to be found in the fact that such analyses are so tedious that exercises thereon cannot very well be given in the examination-room. The experience gained in such work, however, is of so great practical value that especial attention should be given to it. Physicians are anxiously looking forward to the time when we shall be able to standardise and guarantee the efficiency of all our preparations of powerful drugs, and a great field of research, which cannot but be fruitful, is open to those who have qualified themselves to enter it by previous experience, in examining such drugs and preparations as in the present state of our knowledge admit of the estimation of their active principles.

Organic chemistry generally, however, is sadly neglected, and it would be a valuable discipline for a student to prepare carefully a series of typical organic bodies and compare their properties with the descriptions given in his text-books or in the Pharmacopœia. That too little system is followed in learning, and frequently in teaching organic chemistry to students of pharmacy, is proved by the manner in which they set about attempting to recognise definite organic compounds. Very frequently, as soon as a substance is found to be organic a student will begin and apply characteristic tests for morphia, strychnia, and other alkaloids successively, without ever thinking of ascertaining in the first instance whether the body is, or contains, an alkaloid, or attempting to determine to what class of bodies it does belong. Not only is systematic work here, as in all other cases, the most scientific and reliable, but almost invariably it is the most rapid; it gives the student confidence and proves to an examiner that he has a grasp of the subject upon which he is engaged.

## EXAMINATION OF SUBSTANCES PRONE TO CHANGE.

Every conscientious chemist from time to time will have occasion to examine his stock of such preparations as hydrocyanic acid and spirit of nitrous ether, and an apprentice with such a man would have every opportunity afforded him for becoming practically acquainted with the processes employed. It would be a good habit to acquire, and often lead to interesting results, if students made memoranda in their note-books of variations found in the strength of such drugs upon examining the same samples from time to time, also noting as accurately as possible the conditions to which such samples have been exposed in the intervals. The influences which bring about many changes in active drugs are as yet unknown to us, and careful and prolonged series of observations would result in the discovery of facts upon which many valuable contributions to this Society or to the Pharmaceutical Society's evening meetings could be based.

## APPLICATION OF CHEMICAL KNOWLEDGE TO DISPENSING.

Everything which has gone before leads up to this. The study of chemistry and the acquiring of manipulative dexterity have for their object the formation of reliable and accurate dispensers. The skill of the physician is of no avail unless supplemented by the pharmacist's skill in compounding, and therefore it is that the safety and well-being of the public demand that the pharmacist should possess "a competent practical knowledge of pharmaceutical and general chemistry." Such knowledge enables the chemist to satisfy himself as to the purity and strength of the drugs he employs, his training has inculcated habits which conduce to accuracy and neatness in his work, and his developed observing and reasoning powers do him good service in many an emergency. It is astonishing how frequently a knowledge of chemistry is of service at the dispensing counter, either in explaining decompositions, in teaching the proper order of mixing ingredients, in detecting incompatible ingredients, or in preparing chemicals; and it is equally surprising how many chemical facts can be picked up there by an intelligent student who has his wits and eyes about him.

## A GLANCE BACK.

We have thus briefly reviewed many of the circumstances under which chemical science is brought to bear upon the



art of pharmacy, and incidentally and in a somewhat disjointed fashion, have pointed out how certain knowledge may best be acquired. Some of the errors into which students of pharmacy fall, and some of the important matters, which too many of them neglect, have been pointed out, and I have also remarked that had every pharmacy its laboratory attached for preparing and examining chemicals and drugs, a three years' curriculum in such establishments would turn out practical pharmacists who would have no occasion to go through a further curriculum at school or college before presenting themselves to receive the official seal certifying their efficiency. Unfortunately this is likely to remain one of those consummations devoutly to be wished, but never likely to be realised.

#### ADVICE TO THE UNTUTORED.

I therefore offer some suggestions with reference to the study of pharmaceutical chemistry more especially applicable to that large class who enter our calling with no knowledge of chemistry, and who during their apprenticeship have no facilities afforded them for acquiring any practical acquaintance with pharmaceutical chemistry, save that of handling drugs in their purchase and sale, and in their admixture when dispensing. Such students undoubtedly labour under great disadvantages, but in very few cases do they realise or make the most of the advantages they do enjoy. Instead of setting to work at once, and so apportioning their time as to give a certain amount for study, the whole of their leisure from business is devoted to pleasure, and the study deferred until the conclusion of their apprenticeship, under the impression that all the knowledge necessary for passing the examinations and requisite for the safety of the public can be got up in a three or six months' course in a London school. This is the most serious mistake a student can make, and one which it is almost impossible for him afterwards to retrieve. Three or four of the best years of his life are not only in a measure wasted, but habits have been forming and strengthening their hold upon him which he may never be able to shake off. Very few people ever acquire studious habits who have wilfully wasted the years during which they were developing into manhood, and it is exceedingly difficult in after years to bring the undivided attention to bear upon any subject of study, hence the importance of continuing the mental training without intermission when the schoolroom has been exchanged for the shop. There is not the slightest doubt that the very large percentage of failures at the Pharmaceutical Society's examinations is chiefly due to this cause. The student who has done nothing during his apprenticeship finds on commencing to prepare for examination that the task is of much greater magnitude than he had anticipated, and frequently the result is that his whole desire becomes simply to cram a sufficient number of facts to enable him to deceive his examiner as to the extent of his knowledge. But such a man needs possess much cunning to succeed in the attempt. Almost invariably his unsystematic manner of working, and his inability to draw the most obvious inferences, betray the undeveloped condition of his observational powers, and the fact that the knowledge he has been absorbing is neither digested nor assimilated, and therefore practically useless. Should he, however, succeed in hoodwinking his examiners it is at the sacrifice of his self respect, and he will always afterwards be painfully conscious of his unworthiness.

#### CONTINUITY AND METHOD IN STUDY.

I cannot too strongly impress upon all students who desire to become practical pharmacists the absolute necessity of commencing the study of chemistry at the earliest possible moment. There cannot be an establishment, however small, which will not afford room for the small set of necessary apparatus, nor a master so ignorant and stupid as to object to his apprentices or assistants employing their leisure in acquiring practical knowledge which will be of service to himself, and of still greater value to them. The whole apparatus required can be purchased for such a trifle that there is no excuse for any student deferring the commencement of the study until such time as he can attend a college or school. In studying chemistry, beware of mistaking theories for facts. Try in all cases to have a clear idea as to what are mere theoretical assumptions, and what are indisputable facts, and in so doing you will avoid a snare into which

many of our students fall. Whilst theories are absolutely necessary to enable us to connect our facts together, yet it is of far greater importance to be able to enumerate the facts which support a theory than to have committed to memory its clearest verbal enunciation. The latter is of use, neither in examination-room nor elsewhere, without the former. I should like to lay considerable stress on this point. Neither the examiners of the Pharmaceutical Society, nor the safety of the public, demands that a pharmacist shall be a transcendental chemist, but they do demand that he shall show some slight acquaintance with the fundamental theories of the science, the truth of which the student assumes in all his formulæ and equations, and by which alone, so far as we at present know, it is possible to give any explanation and interpretation of the multitude of observed and recorded facts. Once fairly grounded in the science, however, he will begin to realise its important applications, and bring his brains as well as his hands to bear upon all the routine work of the shop. No pursuit is so calculated to develop those intellectual faculties, and that manipulative dexterity which characterises a reliable dispenser, as that of the science of chemistry.

#### THE STUDENT AND THE TEACHER.

Of course there are students and students—those who require no external stimulus to keep them at their studies, and those who will never open a book unless under the influence of some pressure from without. Both classes, but the latter especially, are fortunate when they reside with a master who is able and willing to help them in their work, or when they reside in a town in which the subjects they are studying are taught. Just as a child left to itself will be likely to attempt to satisfy its appetite by eating much which is indigestible, or of no nutritive value, or even positively injurious, and to take its food at irregular intervals, so nearly every student, unless overlooked and assisted, will be likely to study many things of no real value to him, and overlook others of pressing importance, and probably imbibe erroneous ideas which it will afterwards be difficult to eradicate. And as the child's guardian will see that food suitable in quantity and quality is administered at proper intervals, and so avoid indigestion and ensure thorough assimilation, so a judicious teacher will direct and regulate a student's labours, and so stimulate him as to insure his rapid growth in knowledge, and develop to the utmost his intellectual powers. For this reason it is desirable whenever possible to undergo a course of training under a thoroughly competent teacher, either during the apprenticeship, or, failing that, afterwards, but prior to going in for any examination. Let him select a school in which the teacher or teachers, not only are competent, but willing to give personal attention to the students, to stand over them when necessary, and show them the right as against the wrong way of going about their work. The teacher also must be endowed with some enthusiasm for the subject he teaches if he wishes to arouse any degree of interest in his students, and I am afraid it is this lack of enthusiasm for pharmaceutical work and research in the schools of this country which is the cause of so few men becoming really devoted to pharmacy, or even devoted to it to the slight extent necessary for obtaining the diploma of a pharmaceutical chemist.

#### EDUCATION *versus* INSTRUCTION.

No doubt teachers are very much to blame also for the lack of reasoning power observed in so many of our students. Too much attention is given to *instructing*, instead of to *educating*, probably because the former necessitates so much less personal supervision of a student's work than the latter. But a conscientious teacher will not be content with merely instructing, or imparting knowledge; he will take care to exercise his students in the practical application of such knowledge, leading them to observe and think for themselves, and to have confidence in the conclusions which they draw from the results of their experimental work. I know that I am treading upon delicate ground, but I feel that I must do justice to student and teacher alike, and not lay all the blame upon the shoulders of the poor students, who are already overburdened. There is one other remark I should like to make to students preparing for the *viva voce*, and so essentially practical examinations of the Pharmaceutical Society. Whatever may be said to the contrary, it is not only necessary that a student to be successful should



be possessed of a certain amount of knowledge, but he should also have submitted himself to some special training to enable him to give ready answers to such questions as are likely to be addressed to him in an examination room. Bacon with truth says, "Reading maketh a full man, writing an exact man, and conference a ready man." Now a candidate at a *vivâ-voce* examination must needs be a ready man, and unless he "have a present wit" this readiness can only be acquired by conference with his fellows, with others equally interested with himself in the subject of study. Student should examine student upon all possible occasions -- a discipline the value of which can scarcely be overrated apart from its examinational aspect. I should like to lay much stress upon this point, for I have had the opportunity of watching the effect of this system upon large numbers of students, and I know of no training so calculated to give a ready wit and to enable a man to make the most use of the knowledge he possesses. And, after all, examinations are not, or should not be, mere tests of knowledge, for no amount of information should qualify a man if he knows not also how practically to apply it.

#### CONCLUSION.

And now, in concluding, will you let me remind you that few men have greater or more frequent opportunities of applying their knowledge for the benefit of their fellow-men than pharmacists, and there is no reason whatever why you should not so apply it; therefore let me implore you, as you desire to cultivate a spirit of true manliness, never to stoop to the acquisition of knowledge merely "for lucre and a livelihood," or "for ornament and reputation," but always keep before you that far nobler aim, "the employment of the divine gift of reason to the use and benefit of mankind."

I had hoped to have been able to give a brief outline of a course of practical work suitable for a "Minor" student, and a further one for the "Major" student, but my leisure has been so limited since I commenced the paper, and the task is one which would require so much consideration, that I have been unable to accomplish it. Moreover, it is a moot point whether it is not better for a student, aided by a competent friend acquainted with his particular position and advantages, to sketch out such a course for himself.

Doubtless opinions on this and other points will be given by some of my friends and colleagues whom I see here to-night, and who are in a position to speak with authority on such matters.

#### MEDICATED COTTONS.

**B**ESIDES the pure cotton-wool used in surgery we have now a considerable number of ingenious preparations in which the pure cotton is impregnated with a variety of medicinal substances, in order to render it a valuable agent in the dressing of wounds, in painful swellings or indurations, and for a number of external applications.

#### PURIFIED COTTON-WOOL.

Macerate the commercial article for the space of ten minutes in benzol: press out the liquid and allow the cotton-wool to dry by exposure to the air. This treatment has for its object to remove any grease or resinous matters which may be present in the samples, and thereby enables them to absorb the medicating substances more easily. Many greasy samples of cotton-wool will not mix with watery liquids at all, and cotton which is impregnated with oils or resinous substances absorbs the active ingredients irregularly, yielding a preparation which is far from uniform in quality.

#### IODISED COTTON.

The iodised cotton of Méhu is prepared by thoroughly drying 375 grains of pure cotton-wool in a stove; then mixing with it 30 grains of iodine, and placing the mixture in a closed flask at a temperature of 212° Fahr. for an hour; this is effected by placing the flask upon a water-bath. The iodine is thus equally diffused throughout the cotton. This preparation, we are assured, acts as a useful revulsive in neuralgia, serous effusions, slight inflammation of the respiratory

organs, &c. A modern French work gives the following instructions:—

	Parts
Iodine .. .. .	1
Purified cotton-wool..	12

Enclose the iodine in some filter-paper and place it at the bottom of a flask with wide mouth; then introduce the cotton-wool and close the flask by covering the mouth. Place the flask in a moderately warm place until the cotton appears to be uniformly coloured by the iodine. The preparation must be kept in stoppered bottles with wide mouths, placed in a cool place and out of the light.

#### SALICYLATED COTTON.

This preparation consists of purified cotton-wool impregnated with about 1-300th of its weight of salicylic acid. It has been found useful as an antiseptic agent in the dressing of wounds. In cases of amputation it is asserted that the patient has been kept without fever by the use of a salicylated cotton-wool dressing, which was only required to be renewed at the end of the week. The formula for its preparation is as follows:—

	Parts
Purified cotton-wool .. .. .	100
Salicylic acid .. .. .	10
Rectified spirit .. .. .	100
Glycerine .. .. .	1

Dissolve the salicylic acid in the rectified spirit; add the glycerine to the solution; saturate the cotton-wool with the liquid; press out the superfluous liquid; dry with the usual precautions; and keep in wide-mouthed bottles.

#### BORACIC ACID COTTON.

To prepare this the ingredients used are taken in these proportions:—

	q.s.
Purified cotton-wool .. .. .	10 parts.
Boric acid .. .. .	9J "
Water .. .. .	

Dissolve the boracic acid in the water at a temperature of 140° Fahr. (60° Centigrade); saturate the purified cotton-wool with this solution; press it, dry it, and preserve it in corked bottles having a very wide mouth.

#### IODOFORM COTTON.

This preparation has come somewhat extensively into use during the last five or six years. It is best made in the following manner. It is necessary that each ingredient be taken very accurately according to the proportion given:—

	Parts
Iodoform .. .. .	2
Ether .. .. .	10
Rectified spirit .. .. .	10
Glycerine .. .. .	10
Purified cotton-wool .. .. .	30

Dissolve the iodoform in the mixture of the ether and spirit; add the glycerine to this solution, and saturate the cotton-wool with the liquid. Let it dry by exposure to the air. Draw the cotton out and keep it in glass-stoppered bottles with a wide mouth, closing well, and placed in a dark, cool place.

#### GLYCERINATED COTTON.

This is a preparation recommended by Gubler. It consists simply of pure cotton-tissue imbibed with pure glycerine; and it is said that cotton so prepared is permeable to all medicinal liquids without losing either its suppleness or its lightness. It is obtained by pouring a few drops of pure glycerine upon squares of cotton, and then squeezing them as strongly as possible with the hands.

#### HÆMOSTATIC COTTON.

To prepare hæmostatic cotton the purified cotton-wool is boiled in a solution of soda, and then plunged into a solution of perchloride of iron. It was invented by the German pharmacist, K. Ehrle, and has been extolled on the Continent both for hospital and camp use. It is used like lint.

#### AMMONIACAL COTTON.

This product was described a few years ago by Mr. B. Brown, who observed that when ammonia gas is passed through pure, dry cotton-wool, it is absorbed to a very large amount. In a water-bath, exposed to the air, the preparation loses all its ammonia.



## THE ASSAY OF QUININE.

BY DR. J. E. DE VRY, C.I.E.

IN an editorial which appeared in the *Pharmaceutical Journal* for March 13, 1866, under the head "Alleged impurity of commercial sulphate of quinine," there occur the following passages:—"According to Dr. de Vry's experiments this quinine sulphate gave in one instance 9.46 and in another 7.82 per cent. of cinchonidine sulphate. The difference of 1.64 per cent. between these results is ascribed to a loss in one of the experiments, but it is not clear how such a loss, amounting to one-sixth of the cinchonidine sulphate, should have occurred, and it seems more probable that the optical method of analysis adopted is untrustworthy, perhaps only an optical illusion."

When perusing the above I was forcibly reminded of the saying of a celebrated Frenchman, "Donne-moi deux lignes de ta main, et je te ferai pendre."

As I consider my professional character in the eyes of English pharmacists impugned when a doubt is thrown on the trustworthiness of my work, I feel called upon in self-defence to place before your many readers the details of the investigations so disparagingly spoken of by the editor of the *Pharmaceutical Journal*.

Towards the end of the year 1883, I was testing some quinine sulphate by Dr. Hesse's method,\* when I noticed that if I left the mixture in the quinometer (this being well closed) not for two hours, but for twelve or fourteen days, I invariably obtained crystals of cinchonidine. I demonstrated this fact at an evening meeting of the members of the Pharmaceutical Society of the Hague, besides publishing it in a Dutch journal devoted to pharmacy.† In this communication I contended that the best practical means for obtaining pure sulphate of quinine was from the acid sulphate, which salt never contains cinchonidine,‡ and is easily procurable from the various quinine makers. In the same paper I asserted that no commercial sulphate of quinine containing less than five per cent. of cinchonidine sulphate was to be met with.¶ My paper elicited a reply from Dr. O. Hesse, the manager of Jobst's quinine works. After reading Dr. Hesse's criticism I determined to examine some of Jobst's sulphate of quinine. With this object in view I purchased 100 grms. of Jobst's agent in Amsterdam, unreservedly telling the agent that I wished to ascertain the amount of cinchonidine in it, and at the same time desiring him to seal the bottle.

The contents of the bottle remained untouched until October 23, 1885, when the seal was broken by me in the laboratory of the Polytechnic school at Delft, in the presence of the professors of chemistry in that institution, viz., Drs. A. C. Oudemans and S. Hoogewerff, in whose presence I converted 80 grms. of this quinine sulphate into the acid sulphate,§ which latter salt was collected on a filter, whilst the mother-liquor, as well as the small amount of wash water, were removed by means of an air-pump. The acid sulphate of quinine thus obtained was perfectly pure, whilst the 154 grms. of mother-liquor and washing water contained all the cinchonidine. By shaking this mother-liquor with caustic soda and ether, the quinine and a part of the cinchonidine were dissolved by the ether, whilst the greater part of the cinchonidine, amounting to 4.7 grammes = 5.87 per cent., remained undissolved. As-

suming the cinchonidine to have been pure, it would correspond with 7.9 per cent. of crystallised cinchonidine sulphate. It was not pure, however, but contained quinine. It was therefore converted into tartrate and submitted to the optical test by my friend Dr. Koppeschaar, who found 37.1 per cent. of quinine tartrate and 62.9 per cent. of cinchonidine tartrate, corresponding with 29.461 of quinine, and 47.78 of cinchonidine. The 4.7 grms. of cinchonidine consequently contained 1.79 grms. of quinine.

Thus by converting 80 grms. of Jobst's quinine sulphate into acid sulphate,  $4.7 - 1.79 = 2.91$  grms. of cinchonidine, = 3.64 per cent., were separated, *qua talis*, corresponding to 4.91 per cent. of crystallised sulphate of cinchonidine.\* The inference to be drawn from this is that by the above process the *relative* quantity of cinchonidine present in commercial quinine sulphate can be ascertained without difficulty by any pharmacist familiar with practical chemistry; for although the cinchonidine which is separated is not pure, but contains a considerable amount of quinine, this admixture is the same if different samples are examined identically, and therefore the quantities of cinchonidine obtained will be a measure of the relative commercial value of each sample.

The 2.91 grms. of pure cinchonidine obtained from 80 grms. of Jobst's sulphate of quinine was, however, not the only cinchonidine present, for the ethereal solution contained besides quinine a considerable quantity of cinchonidine. This was proved by converting the 9.69 grms. of residue left by the distillation of the ethereal solution into tartrate. Dr. Koppeschaar found in this tartrate by optical examination 84.03 per cent. of quinine tartrate and 15.94 per cent. of cinchonidine tartrate, corresponding to 66.75 of quinine and 12.11 of cinchonidine. The 9.69 grms. above mentioned still contained therefore 1.49 grms. of cinchonidine, corresponding to 2 grms. of crystallised cinchonidine sulphate = 2.5 per cent. It will be seen that, by the above process, I not only separated, *qua talis*, a part of the cinchonidine contained in the quinine sulphate, but that I proved at the same time that it contained at least  $4.91 + 2.5 = 7.41$  per cent. of crystallised cinchonidine sulphate.

It will be evident to every practical chemist that the above method only affords approximate results, and that it is totally unsuited for the accurate quantitative determination of the cinchonidine present in quinine sulphate. I know no method so well adapted for this latter purpose as the optical one, introduced in 1875 by Dr. A. C. Oudemans,† which, if properly performed, will be found to yield excellent results.‡

Five grms. of Jobst's quinine sulphate were dissolved in 200 grms. of boiling water, and to the clear solution was added a concentrated hot solution of 5 grms. of sodium tartrate. After a few seconds the tartrate of quinine began to crystallise, and was the next day collected on a filter, washed, and dried on blotting paper in the air. As the absolute absence of moisture, except the water of crystallisation, is an essential condition for obtaining an accurate result, Dr. Koppeschaar made a series of experiments in order to ascertain the conditions for effectually drying the tartrate without loss of its water of crystallisation, which led him to the conclusion that the tartrate can be perfectly dried at a temperature somewhat below 30° C., at which temperature it retains its water of crystallisation. One gramme of the well-dried tartrate was now dissolved in 7.5 cubic centimetres of normal hydrochloric acid in a small balloon, and water added till the volume measured exactly 50 cubic centimetres at the temperature of 17° C. This solution, observed by Dr. Koppeschaar in a tube of 0.5 metre, in Laurent's polariscope, showed a deviation of  $-20^{\circ} 44'$ ; so that the molecular rotation of this tartrate is  $[\alpha]_D = -\frac{20^{\circ} 44' \times 50}{1 \times 5} = -207.33$ . By introducing this

number in the formula given by Dr. Oudemans, the result was that this tartrate contained 90 per cent. of quinine tartrate, and 10 per cent. of cinchonidine tartrate; corresponding with 98.16 of quinine sulphate,  $2(C_{20}H_{21}N_2O_2) \cdot H_2SO_4 + 8H_2O$ , and 10.26 of cinchonidine sulphate,  $2(C_{19}H_{22}N_2O) \cdot H_2SO_4 + 6H_2O$ .

\* In my original paper, owing to an arithmetical error, this number was printed as 5.91, an oversight that altogether escaped the critical vigilance of the editor of the *Pharmaceutical Journal*.

† *Chemical News*, 1877, p. 110, from "Archives Néerlandaises des Sciences Exactes et Naturelles." Tome xij., 1re livraison.

‡ I am gratified to find that Dr. H. Hooper, an English chemist, and the Government quinologist at Ootacamund, has testified to the accuracy of this method, which he daily employs in his quinological analyses.

\* "Year-book of Pharmacy," 1879, p. 24.

† "Maaxman Nieuw Tydschrift voor de Pharmacie in Nederland," 1884, p. 10.

‡ In the *Pharmaceutical Journal* for April 4, 1885, Dr. Koppeschaar offers an explanation of this fact.

¶ After the publication of my paper, I addressed through the pages of a Dutch weekly journal of Pharmacy an appeal to the Dutch pharmacists, asking them to send me a small quantity of quinine sulphate containing less than 5 per cent. of cinchonidine sulphate, should any of them possess so unexceptionable a sample, in which case, I added, that I would make a public announcement to the effect that I had made an erroneous statement. The only response to my appeal was an article in the weekly paper for Pharmacy (No. 9, March 1, 1884), from the pen of Mr. G. B. Schmidt, an eminent pharmacist living at Leenwarden. Mr. Schmidt stated that he had examined ten samples of commercial quinine sulphate from different sources, and not one of them would stand Hesse's test if the quinometer were left standing with the mixtures more than twenty-four hours; whilst quinine sulphate, prepared by himself from the acid sulphate, even after ten days gave not the least trace of crystals.

§ This process has received the approbation of Mr. D. Howard, no mean authority in these matters. Mr. Howard terms it "an excellent test for the presence of cinchonidine in quinine."—*THE CHEMIST AND DRUGGIST*, October 15, 1885, p. 562.



If, therefore,  $98.16 + 10.26 = 108.42$  contains 10.26 of cinchonidine sulphate, 100 parts of the quinine sulphate under examination must have contained 9.46 parts of cinchonidine sulphate.

After I had completed my examination, I sealed up the remainder of the sulphate in the presence of Drs. Oudemans and Hoogewerff, who placed it in the museum of the Polytechnic School at Delft, whence I shall be happy to withdraw it and place it at the disposal of any scientific chemist desirous of testing the accuracy of my results, provided the investigation be undertaken in the presence of Dr. Oudemans, Dr. Hoogewerff, Dr. Koppeschaar, or Mr. Robert H. Davies, F.I.C., F.C.S., the chemist at Apothecaries' Hall.\*

Having thus assured myself that the quinine sulphate made by one of the leading firms contained a large amount of cinchonidine, I extended my investigation, so as to embrace the quinine sulphates of other makers.

I give the results in the following table:—

*Composition of the Commercial Quinine Sulphate.*

		English Manufacture		Dutch Manufacture	
Sulphate of quinine ..	..	84.769	82.208	77.931	87.575†
cinchonidine ..	..	9.508	6.942	8.355	00.000
Water of crystallisation ..	..	5.723	10.850	13.714	12.425
Total .. ..	..	100.000	100.000	100.000	100.000
German Manufacture					
Sulphate of quinine ..	..	77.428	78.932	78.617	76.666
cinchonidine ..	..	4.730	5.730	5.676	8.180
Water of crystallisation ..	..	17.842	15.338	15.707	15.154
Total .. ..	..	100.000	100.000	100.000	100.000
French Manufacture					
Sulphate of quinine ..	..	82.597	76.282	73.790	
cinchonidine ..	..	5.954	9.072	12.448	
Water of crystallisation ..	..	11.449	14.646	13.762	
Total .. ..	..	100.000	100.000	100.000	

We learn from this table that *all* the commercial quinine sulphates contain variable amounts of cinchonidine sulphate, and I agree with Dr. B. H. Paul in the opinion expressed by him in a paper read by him before the Pharmaceutical Society of Great Britain, on February 7, 1877, wherein he says "that the circumstance that such quantities may be overlooked in testing quinine is important both to manufacturers and pharmacists, who are liable to be placed in circumstances of difficulty on account of this impurity." The difference between Dr. Paul and me in this matter is, that since by his process he *could not find all* the cinchonidine contained in the samples examined by him, he failed, therefore, in detecting the *general* occurrence of cinchonidine in commercial quinine sulphate.

The universal presence of cinchonidine is not an intentional sophistication in commercial quinine sulphate, but is due to the circumstance that the majority of barks used for the manufacture of quinine contain considerable quantities of cinchonidine. According to the chemical laws expounded by Koppeschaar in the article before quoted, this cinchonidine *must* be present in the ordinary commercial sulphate, but *cannot* exist in the acid sulphate. Being convinced of the truth of this, I have for the last three years advocated the substitution of the acid sulphate for the neutral; and my advice has been followed by many Dutch physicians, who now always prescribe the former.

But should it so happen that the majority of the faculty still adhere to the neutral sulphate, it is to be hoped that in future the manufacturer will prepare this from the crys-

tallised acid sulphate. This has been recently done at my request on a limited scale, and by way of experiment, at the Quinine Works at Amsterdam. The tartrate prepared by me from this sulphate showed a molecular rotation of  $[\alpha]_D = -216^\circ$ , which proved that this sulphate was chemically pure.

I also desire to refer to another passage in the article from which I have already quoted. The writer in the *Pharmaceutical Journal* says further on:—"The inferences drawn from results obtained by this method do not appear to have any greater value than that by which Dr. de Vry was led to state that the total alkaloids of succirubra bark always possess a particular rotatory power by which their origin may be recognised, an inference that has now been completely exploded and ascertained to be necessarily erroneous."

Your readers would be better able to judge between me and my critic if they would refer to the proceedings of the British Pharmaceutical Conference, held in London, August 5, 1874, and published in the "Year-book of Pharmacy" for that year, page 484. In the discussion which followed the reading of my paper on "Pharmaceutical Tests for Cinchona Bark," I asserted that I had no difficulty in determining the presence of the mixed or total alkaloids in the Indian red barks by means of the polariscope, since I was accustomed to the use of this instrument, "by the aid of which I could easily detect the red barks of India, as they possessed on an average a molecular rotation of  $33^\circ$  to the left."

The above statement was based on a series of observations which appeared in the *Pharmaceutical Journal* of July 1, 1871, p. 1; December 30, 1871, p. 521; August 16, 1873, p. 121; and May 3, 1874, p. 869. I there showed that of fourteen different red barks grown at Ootacamund in British Sikhim, and Jamaica, eleven yielded total alkaloids which were levogyrate, and two only those which were dextrogyrate; whilst from one bark, which came from the locality known as "Cold Spring," in Jamaica, the alkaloids were destitute of rotation, owing to the levogyrate and dextrogyrate neutralising each other.

From these facts I came to the conclusion that, although there were exceptions (one of which will be met with further on), as a rule, the total alkaloids of Indian red bark are levogyrate. The correctness of this view received subsequent confirmation from the results of twenty-four analyses of red bark from Java, by Mr. Moens in 1875. Mr. Moens obtained from the alkaloids of these barks an average of 81.07 per cent. of tartrates of quinine and cinchonidine, which being both levogyrate, their large amount proves that these total alkaloids were all levogyrate. It will be recollected that in 1875 the preparation called Quinetum, which consists of the mixed or total alkaloids of East India red bark was introduced by Mr. T. Whiffen, and as I have invariably found quinetum levogyrate, this substantiates my contention.

The fact that Bengal *cinchona febrifuge*, prepared from the red bark of Darjeeling, is dextrogyrate, in which respect it is an exception to the above rule, proves that the information derived from molecular rotation is neither theoretical nor "a groping in the dark,"\* but possesses a practical value for the maker of extractum cinchonæ liquidum (B.P.). Should he employ a bark which yields exceptionally dextrogyrate alkaloids, he may be assured his product will be neither satisfactory nor such a one as will satisfy the requirements of the British Pharmacopœia.

The Hague, April 6, 1886.

#### BANKRUPTCIES.

*Rc* J. BELLAERS, Oxford Street, Stepney, Doctor of Medicine.

ON April 21, before Mr. Registrar Giffard, a meeting was held for the public examination of this debtor, who failed in March, with unsecured liabilities 500*l.* 14*s.* 5*d.*, against assets 345*l.* 14*s.* 8*d.* In reply to Mr. Aldridge, the debtor stated that he attributed his failure to losses with respect to house property which he purchased, and to the falling off of his practice. He had never kept any books. He kept an open surgery. In reply to a creditor he remembered conversing as to some property, and might have said it was paying him very well. After some further questions his Honour directed the examination to be concluded.

\* "Year-book of Pharmacy," 1885, p. 439.

† This exceptionally pure quinine sulphate was prepared at my request at the quinine manufactory at Amsterdam, from the acid sulphate, and was purchased by Mr. J. C. Huysman, who did not object to pay a higher price for a pure article.

‡ Mr. A. J. Cownley's Table A, in the *Pharmaceutical Journal* of March 20, 1886, is a confirmation of this, for if the six samples in which he could find no cinchonidine contained none, then these six sulphates of quinine must have been manufactured either from cuprea bark or from acid sulphate of quinine, which is very improbable.



## Veterinary Pharmacy.

### FLATULENT COLIC, OR GRIPE.

IN a recent article we spoke of spasmodic colic or that form of gripes which is caused by sudden muscular contraction of the bowel.

There are many other causes besides drinking cold water when the animal is hot, which induce gripes; but flatulent colic is not so often traceable to an immediate and exciting cause as to such chronic reasons as indigestion, improper food, over-feeding, long spells of idleness, and fast driving on a full stomach; windsuckers, cribbers, and weavers are the most frequent subjects, though any horse is liable to it. In some it is hereditary as in man, and post-mortem examination does not show any anatomical peculiarity. A knowledge of the fact that it is hereditary should be, but often is not, sufficient to prevent an owner from breeding from a colicky mare. We have known several apparently valuable colts bred from the same mare, but by different sires, to die of colic without any exciting cause, and before they had ever looked through a collar; the man, therefore, who breeds from a flatulent mare is courting disaster.

Indigestion in one or other of its many forms, and they are legion, is the chief cause of flatulent colic, but worms, intestinal calculi, dung balls, and other bodies not carried on by the ordinary peristaltic action may result in colic; or too much green food, especially if allowed to remain in a heap for some time before it is eaten. It is customary in the early summer months to supply horses with cut rye and vetches or other green stuff, which is cut early in the morning with a heavy dew or rain upon it, and fermentation is so quickly established that by the time it is delivered in town stables it will be found quite hot upon thrusting the hand into the centre of the bundle. This kind of food is devoured with avidity by stall-fed horses accustomed to dry, hard food for many months at a time, and the consequence is an accumulation in the intestines, fermentation, and elimination of large volumes of  $\text{CO}_2$  and  $\text{H}_2\text{S}$ . The symptoms very much resemble those of spasmodic colic, the horse paws, scrapes the ground, strikes at his belly with the hind feet, groans, rolls, sweats, and trembles. If he breaks wind to a great extent he seems, and doubtless is, relieved by so much gas as he has been able to pass; but he is under a difficulty that neither man nor ruminants know, namely, he cannot eructate. Besides all the differences in a cow's digestive apparatus, she is able to get rid of a vast quantity of gas upwards. You have only to punch one in the belly to discover this, and many cows do it with no greater provocation than being looked at by a stranger.

The pulse in flatulent colic, as in the spasmodic form, is not sufficiently altered at first to be much guide, but it should be noted in order to compare it with some other bowel complaints in which it is an important indicator. There is one marked symptom which will enable the beginner to distinguish flatulent colic, and that is the drum-like condition of the belly. It is probable that the attendant will have already noticed that, but the veterinary adviser should in any case of colic take notice if the usual depression between the hip and ribs is at all filled up, and if it sounds drum-like upon being lightly struck. If the case is somewhat advanced and other remedies have already been tried, if the pulse is small and weak and evidence of extreme prostration is present, indicated by cold ears and legs, a bad end may be anticipated, and such a case should not be attempted by any but a qualified veterinary surgeon, if one is obtainable. When there is extreme distention (tyimpanitis) a small trocar and canula is sometimes used to puncture the bowel, but this operation requires an intimate acquaintance with anatomy and is usually a *dernier ressort* of the surgeon. Assuming that the prescriber is called in reasonable time, we would advise a mixture of such remedies as will produce a rapid distribution of nerve force; that nerve force which controls the calibre of blood-vessels and directs the operations of the bowels which are not voluntary, and such agents as will form new combinations with the gases, which, we have already said, are chiefly carbonic and sulphuretted hydrogen. Ammonia suggests itself at once as most likely to have this effect, and, given in large doses, much diluted and often repeated, is

frequently marvellous in its reduction of the tympany. As the disease often arises from retained and partially digested food, experience has long since induced farriers to give an aperient with at any rate the first dose, and, although this practice is questionable on strictly scientific principles, we are in this instance disposed to think the old rule-of-thumbers are right.

The following then for a first dose has been most successful in our hands:—

Spt. ammon. arom. . . . .	3j.
Ext. aloes barb. . . . .	3iv.
Tinct. opii . . . . .	3vj.
Spt. æth. nit. . . . .	3j.
Tinct. aconiti (B.P.) . . . .	℥xx.
Inf. zingib. ad . . . . .	Oss.

M. ft. haust.

Fleming's tinct. aconite is much used in veterinary practice, but in these papers the B.P. preparations are adhered to as much as possible for the sake of convenience and uniformity.

A stimulating application all over the belly is helpful by exciting the periphæra of the nerves, and no doubt this is the way to account for the benefit derived from the application of topical remedies for affections seated in parts which would seem at first thought to be too remote to be benefited.

The following is a good remedy, as well as a departure from the everlasting Elliman and white oils:—

	Parts
Lin. c. amph. co. . . . .	1
Ol. origani . . . . .	1
Lin. saponis . . . . .	6
Tinc. opii . . . . .	1

M.

If the horse is not improving in an hour from the first dose, the following may be given every hour:—

Spt. ammon. arom. . . . .	3j.
Æther rect. . . . .	3iv.
Tinct. opii . . . . .	3iv.
Aq. ad . . . . .	Oss.

M. ft. haust.

Hot-water injections per rectum should be given frequently, and if the means are at hand, a blanket saturated in hot water and suspended round the belly should be advised, the bed made comfortable, and an attendant told off to watch the patient and prevent him from knocking himself about.

If relief is not obtained in a few hours, inflammation of the bowels is to be feared.

### PATENTS AND TRADE MARKS.

AT the London Institution, on April 5 and 12, Mr. Montague Shearman, M.A., barrister, gave two interesting lectures, the first on the "Patent Law" and the second on "Trade Marks." He aimed, he said, to induce the public to regard the study of law as a recreation, even as science and literature are now regarded. The claim of the Crown to grant monopolies to inventors and others is a very ancient one. Queen Elizabeth and James I. carried the practice to such an extent as to bring about an Act which abolished most monopolies, but which entitled inventors to a monopoly of manufacture for fourteen years. It is upon this Act that our patent laws are founded. Patents to inventors may be defended on public grounds for the reason that inventions create trade and are therefore of service to the country. The country may reward an inventor directly or indirectly. Our Government once gave 4,000 guineas to a doctor for a new method of fumigation by tobacco smoke to prevent contagion. Modern doctors say the true value of this discovery was about 2½d. By the monopoly principle, which was first adopted in England, an inventor is likely to be rewarded in proportion as the public approve his invention. The law of patents remained without change from the Act of James I. down to within the last forty years. The Judicial Committee of the Privy Council can now extend the duration of a patent if of opinion that the patentee has not been sufficiently recompensed. By the Act of 1870 exhibition of new unpatented inventions at inter-



national or industrial exhibitions does not invalidate the right to patent. In 1883 the whole law of patents, designs, and trade marks was gathered into a code. Before this Act of 1883 if an inventor died before patenting his invention his representative could not take out a patent. In regard to foreign inventions, Sir G. Jessel (late Master of the Rolls) laid down as law that the importer of the principle is the true inventor if the thing be new to England, though he characterised this law as "absurd." Originally a patent could only be granted for a manufacture, but an artificial and extended meaning in law is given to this word, until now it is held to cover (1) a new thing made, or (2) a new process. But a principle apart from its application cannot be patented.

In his lecture on "Trade Marks," Mr. Shearman said: The object of a trade mark is that if a man makes good wares he is entitled to have the protection of the law against imitators; and the law in giving that protection secures to the public the certainty of procuring the article which they intend to buy. It is now established that trade marks shall consist of names, signatures, devices, and fancy names, or old marks. Every man is entitled to use his own name as a trade mark. But there are some curious cases upon that point. Thomas Holloway sold ointment and pills made up in particular boxes and labelled "Holloway." Henry Holloway, his brother, also manufactured pills and ointment, and also labelled the boxes "Holloway." Upon Thomas Holloway seeking to restrain his brother from making pills and ointment and calling them "Holloway's," the Court held that he could make the articles, and could call them "Holloway's," but he could not imitate his brother's labels. Against this was the case of "Burgess's Essence of Anchovies." The son of the maker of this celebrated essence quarrelled with his father, and commenced an opposition business, selling "Burgess's Essence of Anchovies." The father sought to restrain the son, but could not succeed, on the ground that he was entitled to sell under his own name, and as he had copied nothing. Another case was that in which Day & Martin, the blacking manufacturers, endeavoured to restrain two rival makers of the same name. A man named Day had entered into partnership with a man named Martin, hoping thus to be within the law. But the Court held that it was a palpable device, and restrained them. There was nothing, however, to prevent them, the Court pointed out, selling blacking as "Martin & Day's Blacking." In 1874 it was decided that a portrait could not be registered as a trade mark in this country, although it was frequently used in America. Devices and fancy names must be distinctive to secure the protection of the law. If a name were used which in any way described the article, then that could not be used, because it would be open to anybody to use it. In this way the law actually encouraged falsehood: "Ethiopian Stockings," "Persian Thread," "Chinese Liniment," were secured by the very fact that each of the articles had nothing whatever to do with the places after which they are named. If they had, the names would be merely descriptive of the articles, and thus open to anyone to adopt. Such words as "Lactopeptine," "Ozokerit," "Chlorodyne," "Linoleum," "Pyretic Saline," "Angostura Bitters," cannot be protected, because they merely describe the class of goods. "Eno's Fruit Salt" has been attacked in many ways, but has always been successful, from the very fact that it contains no fruit and no [common] salt, and therefore its title is not descriptive of the article. It is a singularly clever title. Some marks which were once protected have lost their distinctiveness by becoming indicative of a class of goods. Anyone can make "Harvey's" sauce, or "Macassar" oil, or "Singer's" machines. Generally speaking, geographical descriptions are not allowed, but there are a few instances where articles made at particular places are protected. "Glenfield Starch," for example, is made at Glenfield, and is protected. Infringement of trade marks is generally decided by the appearance of the two marks placed side by side. A beehive has been held to be an infringement of a bell where the two had been used for the same class of goods. "Cacaotine," printed in similar letters as "Cocoatine," was prohibited. Anything which can in any ordinary way be mistaken by a purchaser for the original article is held to be an infringement, and is restrained. The lecturer concluded by expressing the hope that the British Government would see its way to place the arrangements for the universal registration of trade marks upon a more satisfactory footing.

## Practical Notes and Formulae.

### YERBA SANTA AS A VEHICLE FOR QUININE.

MR. J. D. AUG. HARTZ, writing to the *American Druggist* regarding the best means of covering the bitterness of quinine sulphide, states that he has succeeded in preparing from yerba santa (*Eriodictyon glutinosum*) a "*Syrupus corrigens*," 1 fluid drachm of which will so obliterate the taste of 2 grains of quinine that only a slight bitterness is perceptible some time after the medicine has been taken. To prepare it 25 oz. of coarsely-powdered yerba santa is exhausted with a menstruum of one volume of alcohol and two volumes of water, the alcohol recovered by distillation, and the remainder is evaporated over a water-bath to 25 fluid oz. During evaporation there is a copious deposit of resin, which is designedly separated, as it is not essential for the end in view. The syrup is made by intimately mixing in a mortar 300 minims of oil of sweet orange with 3 oz. of finely-powdered phosphate of lime, gradually adding 3 fluid oz. of alcohol, and afterwards, also very gradually, 85 fluid oz. of water. Transfer the mixture to a bottle, add 150 minims of purified chloroform, and shake vigorously for half an hour, filter, and dissolve in the filtrate 140 oz. of sugar; add the fluid extract, and enough water to make 200 fluid oz.

### "DOVER'S SOLUTION."

A PREPARATION known as Liquor Doveri, Dover's solution (liquor ipecacuanhæ et morphine), is quite popular in several parts of the United States. It is prepared as follows:—

Acetate of morphine	..	..	..	60 grains.
Dilute acetic acid	..	..	..	1 fl. oz.
Dilute alcohol	..	..	..	7 "
Wine of ipecac.	..	..	..	2 "

M.

Dissolve the acetate of morphine in the acid, add the diluted alcohol and wine of ipecac., and mix the whole thoroughly. Set aside for 24 hours, then filter through paper.—*Med. and Surg. Rep.*

### TO REMOVE NITRATE OF SILVER STAINS.

THE following is suggested by Mr. George R. Underwood:—Dip the fingers into a strong solution of cupric chloride. In about a minute the silver will be converted into chloride, and may then be washed off with hyposulphite of soda solution.

### THE MILKINESS OF ESSENCE OF PEPPERMINT.

A CORRESPONDENT of the *Western Druggist* states that the milky appearance of essence of peppermint is removed by adding 1 oz. of absorbent cotton, in shreds, to each quart of the alcoholic solution of the oil, shaking thoroughly, and allowing to stand from one to two hours. Then filter, returning the filtrate until a clear, greenish colour is obtained.

### MIZU AME, OR JAPANESE MALTINE.

THERE was exhibited in the Japanese section of the Inventions Exhibition a peculiar saccharine extract said to be prepared from malted rice, which possessed the diastase odour of malt extract, but was much paler in colour than that with which we are familiar in this country. This extract goes under the name of *Mizu Ame*.

Dr. J. C. Berry, of Yokohama, states that the manufacture of the extract is carried on in Central Japan in the following manner:—*Moyashi*, or mat, is made by putting barley into a pail with a perforated bottom, and then moistening with water for two weeks, by which time (varying with the weather) the barley germinates. It is then spread to dry, winnowed, and ground. A certain quantity of a very glutinous rice, called *mochi-gome*, is cooked by steaming in a wooden box, and is then mixed in a pail with a proportion of malt water. The whole is then squeezed and crushed until it assumes a hard, jelly-like consistence; then allowed to remain for twelve hours; after which it is removed and placed in hempen bags, and the whole thus subjected to strong pressure. The liquid portion is obtained and evaporated to a proper consistence over a slow fire.



## FRENCH CORRESPONDENCE.

(From our Special Correspondent.)

M. CHATIN OFFERS HIS RESIGNATION.—Prof. Chatin, the director of the School of Pharmacy, on Tuesday (last week) tendered his resignation to the Minister of Public Instruction.

NEW ACADEMICIANS.—M. Chauveau has been elected to the Academy of Sciences, in the place of the late M. Bouley, and M. Ranvier to the Academy of Medicine in place of the late Dr. Robin.

THE "ANTI-CHATIN" FAILS TO APPEAR.—On Thursday bills were posted in the vicinity of the School of Pharmacy announcing that a paper with the foregoing name (Petitjean, editor) would be issued on Saturday morning. But Saturday passed, and so did Sunday and two more days, and still the *Anti-Chatin* came not. It is now said the project has been abandoned. Financial difficulties are thought to have prevented the publication.

THE COMING CHILIAN PHARMACOPŒIA.—A Chilian pharmacist, now attending the lectures quite regularly at the Paris School of Pharmacy, has charge of the publication of a national pharmacopœia for Chili. The original intention was to have the work done in this city, but the demands of Paris printers proved so exorbitant that the job was given to a firm in Leipzig, Germany, whence the proof-sheets are sent here to be read, and returned after revision.

A DOG-BITE THIS TIME.—Pasteur is decidedly unfortunate with his Russian patients. Jovanovoa Schtcherbakoff, a female aged fifty, died on Friday at the Salpêtrière, from well-characterised hydrophobia. Although she had been in Paris a month, she waited a fortnight before undergoing the treatment. This delay, added to the time elapsed between the bite and the date of her departure, is thought to have caused the failure.

VERY MUCH LIKE A TRADES UNION.—The Versailles pharmacists, who number just twenty, have formed what they call a syndicate to regulate the sale of pharmaceutical specialties. The main points of their agreement, briefly stated, are substantially as follows: They are to allow on these goods no higher discount than ten per cent. of the printed price for a single package, and fifteen per cent. when six are sold together. They are to refrain from advertising every sort of pharmaceutical products, by either posters, bills, circulars, or any device whatsoever, both in Versailles and out of it. They are not to use any signs bearing such mottoes as "Reduced prices," "Great reduction in prices," "The cheapest pharmacy of the town," &c. Any one of the signers who shall violate this covenant, which he promises upon his word of honour to keep faithfully, shall pay a forfeit of 500 francs to the Pharmaceutical Society of Seine-et-Oise. Every one of the pharmacists practising in Versailles has signed the agreement, which is now taking effect accordingly.

PASTEUR LOSES HIS FOURTH RUSSIAN PATIENT.—Dimitry Borowkoff, aged 52, who came from the Government of Vladimir with the second group of Russians bitten by a mad wolf, died on Monday morning (last week) at the Hotel-Dieu. His legs and arms were fearfully lacerated—as appears to be the case with all bitten by wolves—and the wounds were still very painful and showing no disposition to heal up under treatment. Dimitry had undergone the first inoculations by Pasteur, when, on Sunday, suffering from the incipient symptoms of hydrophobia, he was removed to the hospital, under the immediate care of M. Gamaleia, a Roumanian doctor sent by his Government to learn Pasteur's method. On Monday morning the regular physician, Dr. Tillot, having asked the patient whether he desired anything, he answered in French, "*à boire*." A glass of water was brought, and—a fact without a precedent—the sick man was able to drink it. Soon, however, he was seized with violent spasms, the water was rejected, and an hour later the patient expired.

HOSPITAL PHARMACISTS.—Three such positions having become vacant in the Paris hospitals, candidates are invited to come forward and compete for the appointment. To be admitted to the competition the candidates must have served at least three years as *interne* pharmacists in the city hospitals. By special permission of the Minister graduated pharmacists of the first class may be allowed to enter the lists. The jury will be composed of six pharmacists and one physician. The latter must be a hospital surgeon or physician,

and of the pharmaceutical jurymen four are to be hospital pharmacists and two city pharmacists. The programme of the competitive examination is the following:—

*First Ordeal*.—(1) Recognise ten pharmaceutical preparations, properly so called, and explain *in extenso* the mode of preparation of one or more of them. Time allowed, twenty minutes. (2) A written essay on a given subject of physics, chemistry, or natural history. Time, four to five hours. No books or manuscripts are permitted.

*Second Ordeal*.—(2) On a subject relating to pharmacy or chemistry proposed by the jury, speak twenty minutes, after twenty minutes' reflection. (2) Recognise thirty plants or substances pertaining to pharmaceutical chemistry or natural history, and speak for fifteen minutes on one or more of them.

Only those who have been successful at the first ordeal are admitted to the second, a proceeding which usually eliminates ninety per cent. of the candidates.

## EXHIBITION OF THE PARIS CHEMICAL SOCIETY.

(From our French Correspondent.)

ON Saturday, April 24, the Society held their exhibition in the library of the Arts et Métiers Conservatory. Notwithstanding the inauspicious day, Holy Saturday, there was a good attendance, in which several Englishmen could be noticed. The chemicals and appliances exhibited were more of scientific and educational, than commercial, interest. The Government schools and several manufacturers were represented.

The Paris School of Pharmacy (M. Wyrouboff) had fine crystallised specimens of racemates and inactive double tartrates of sodium and lithium, thallium, rubidium, &c.

The Institut Agronomique (M. Muntz): crystallised perseite, various dulcites, galactoses, and galactines.

The School of Arts et Métiers (M. L. Lindet): double chlorides of gold and selenium, sulphur, phosphorus, and titanium.

The Paris Faculty of Medicine (M. A. Gautier): an apparatus for isolating and counting the number of microbes contained in the air; leucomaines of cod-liver oil, and of muscular flesh; Hiema-spectroscope (MM. Etard & Bemont), ferrocyanic derivatives (MM. Wurtz & Henninger), products of the action of chloroxycarbonic ether on potassium cyanate; products of the dry distillation of calcium lactate, erythrite derivatives.

The Lyons Faculty of Medicine: camphor derivative compounds; chlorobromated camphor in large crystals.

Paris School of Chemistry and Physics: nearly 100 specimens of organic compounds, chiefly of coal-tar origin, and about 70 specimens of rare mineral chemicals, such as salts of chromium, silicium, selenium, tungsten, glucinium, &c.

Lyons Faculty of Sciences: dimethyl-anthracene, phenyl-mesitylen carbinol, &c.

Paris Polytechnic School (M. Tanasesco): specimens of crystalline basic sulphates of cadmium, iron, manganese, &c., very fine under the microscope; (M. Coloriano) twelve specimens of crystallised arseniates, such as those of nickel, cobalt, copper, iron, &c. Both these gentlemen are Roumanians. The same institution had also specimens of acetone perchloride, pentachloride, tetrachloride, terchloride, and their compounds, and (M. Colson) compounds of orthoxylen paraxylene, and metaxylen.

The Paris Central School (M. Vincent): dimethylamine chloro-rhodate, chloro-iridate, chloro-platinate, &c.

Superior Normal School (M. Grandeau): crystalline oxides prepared in the dry way, also cerium, didymium, glucinium, and uranium phosphates, &c.

Among chemical manufacturers, Billaut, of Paris, exhibited a large bar of pure tungsten, finely engraved, and another of tungsten bronze; also salts of tungsten, erbium, cesium, thorium, didymium, zirconium, glucinium, rubidium, &c., and beautiful compounds of urethan.

E. Claudon and Ch. Morin had a model of a distilling apparatus for liquids boiling at high temperatures, provided with a column cooler and electric caution signals.



Paul Rousseau exhibited his "azotimetic battery" for the rapid estimation of the total nitrogen in any state it may be present in organic compounds; also an automatic gauging apparatus. He showed, besides, a full line of rare chemicals.

Gossin displayed over a hundred specimens, mainly of ethers and alcohols, among which were allyl bromide, methylchloride, benzylic alcohol, paraldehyde, propyl cyanide, and cyanetic ether. The last named had slightly leaked through the stopper, and perfumed the whole hall, notwithstanding its lofty ceiling.

Rousseau's "Central Society" showed a centrifugal apparatus (*essoreuse*) for the laboratory, vacuum appliances, retort and funnel stands, agglomerated carbon tubes, crucibles, boats, &c.; also many chemicals, such as glucinium salts, crystallised silicium, terpine, chrysophanic acid, anhydrous aluminium chloride, &c.

Poirier & Dalsace had a very fine display of their aniline compounds and derivatives, anthracene, erythrite, phthalene, and other similar and rare products.

Finally there was on exhibition some metallic gallium; but the specimen was rather small, only as it was contained in a glass tube, anyone could perform the experiment of melting the metal with the mere heat of the hand, and see it form a mirror on the sides of the tube, on cooling.



[The following List has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London, and at Paris and Brussels.]

#### Applications for Letters Patent:—

- Acetic Acid Apparatus.**—3374.—March 10, 1886.—J. Whittle.
- Adhesive Plasters.**—3132.—March 5, 1886.—T. Casely and T. J. Cutmore. Improvements in the manufacture of adhesive plasters.
- Aluminium, obtaining.**—3770.—March 17, 1886.—J. B. Spence.
- Ammonia Chlorine, &c.**—3238.—March 8, 1886.—L. Mond. Obtaining ammonia chlorine and hydrochloric acid from ammonium chloride.
- Asthma, medicinal compound for, &c.**—3616.—March 15, 1886.—E. C. Hodgson.
- Bisulphites from Alkaline Bases.**—3063.—March 4, 1886.—J. M. Walton.
- Bottles, &c.**—2925.—March 1, 1886. D. Gallafent. Improvements in bottles and like receptacles, and in the stoppers therefor.—2979.—March 2, 1886.—Improvements in bottles and stoppers, to prevent fraudulent re-use of trade-marks or advertisements applied thereto, and in means or apparatus employed therein.—3026.—March 3, 1886.—Improvements in bottles, flasks, and cans for storing and heating liquids.—3676.—March 16, 1886.—F. Keeling and R. Rigley. Improvements in bottles and stoppers for the same.—4056.—March 23, 1886.—W. Luntley. A new and improved bottle.
- Bottle-filler.**—3774.—March 17, 1886.—H. W. Stevens. Improvements in machinery for filling bottles with aerated liquid.—3914.—March 19, 1886.—A. Saxlehner. Improvements in apparatus for filling bottles.
- Bottle-filling Machines.**—2827.—February 26, 1886.—W. A. Barlow. A communication from H. E. Schrader of Germany. Improvements in bottle-filling machines.
- Bottle-opener.**—3591.—March 13, 1886.—J. Richardson. An improved implement for opening internally-stoppered bottles.
- Bottle Stopping.**—2882.—February 27, 1886.—W. W. Macvay, R. Sykes, and H. Codd. Stoppering bottles and jars.—2918.—March 1, 1886.—J. Milling and F. Higgrave.

- Bottle-stoppers.**—2966.—March 2, 1886.—W. Robertson. Apparatus for securing corks in and for stoppering bottles.—3156.—March 6, 1886.—J. Holmes. Stopper for bottles or other purposes.—3206.—March 6, 1886.—F. Foster. Stoppers for bottles.—3519.—March 12, 1886.—L. Rogers. Stoppers and mountings for decanters, bottles, and other vases or receptacles.—3696.—March 16, 1886.—W. Hemsley and E. Burton. Stoppers of bottles.—3884.—March 19, 1886.—J. Gray and S. Jones. Stoppering of jars, bottles, vessels, and the like.—4122.—March 24, 1886.—G. H. Jones. A universal bottle-stopper.
- Carbonate of Sodium, &c.**—3406.—March 10, 1886.—E. F. Trachsel. Production of carbonate of sodium or of potassium and hydrate of strontium or of barium.
- Chlorine and Chlorine and Ammonia.**—3322.—March 9, 1886.—B. J. B. Mills. A communication from the Verein für Chemische Industrie of Germany.
- Chlorine Compounds.**—3957.—March 20, 1886.—J. H. Johnson. A communication from E. Hermite of France.
- Cleansing-fluid.**—2800.—February 26, 1886.—A. E. Scott.
- Compound for preventing abnormal Perspiration.**—3913.—March 19, 1886.
- Crystallised Sulphate of Calcium.**—4070.—March 23, 1886.—E. Arthur and E. A. Arthur.
- Cure for Liver, &c. Complaints.**—3182.—March 6, 1886.—The cure of liver and stomach complaints through the action of an insulated voltaic electric chain belt.
- Detecting Fuchsine or other Colouring Matter of Chemical Composition in Wine, &c.**—3470.—March 11, 1886.—E. Edwards. A communication from P. Clair and J. B. Socard, of France.
- Disinfecting-composition.**—2780.—February 26, 1886.—J. G. and R. M. W. Swan. A sheep-dipping and disinfectant composition.
- Distilling Ammoniacal Liquor.**—3220.—March 8, 1886.—A. Dempster. Apparatus for distilling ammoniacal liquor for the purpose of producing sulphate of ammonia.
- Fastenings for Surgical Appliances, &c.**—3938.—March 20, 1886.—W. Macgill.
- Fittings for Feeding-bottles.**—3052.—March 3, 1886.—J. Lakeman.
- Formation of Organic Oxides.**—3826.—March 18, 1886.—J. G. Lorrain.
- Impurity of Blood: medical preparation for treating diseases arising from.**—3703.—March 16, 1886.—S. Watkins. A communication from F. R. Harris, of Cape of Good Hope.
- Infants' Feeding-bottles.**—3251.—March 8, 1886.—A. C. Henderson. A communication from E. L. P. Lelièvre.
- Making Soaps.**—3987.—March 22, 1886.—J. Townsend.
- Medical Dressing.**—3321.—March 9, 1886.—R. Park and Sir S. J. Blanc.
- Pigments.**—2789.—February 26, 1886.—D. Swan.
- Powder Distributors or Sprinklers.**—2900.—March 1, 1886.—L. Binks.
- Preparation for Destroying Insects, &c.**—3864.—March 18, 1886.—R. V. Tuson.
- Para-amidodiphenyl Sulphonic Acid.**—3890.—March 19, 1886.—T. Carnelley.
- Stearic Acid.**—4068.—March 23, 1886.—J. Weineck.
- Producing Antiseptics.**—4117.—March 24, 1886.—A. L. Dussek. Means for producing antiseptics and disinfectants.
- Purifying Water.**—3730 and 3731.—March 16, 1886.—C. W. Burton and F. T. Moison.
- Respirators.**—2883.—February 27, 1886.—H. D. Varlo.
- Storing Aërated Liquids.**—2790.—February 26, 1886.—J. Mumford.
- Syphoning Liquids.**—2863.—February 27, 1886.—F. Foster. Syphoning liquids from bottles, jars, earboys, and such like vessels.
- Utilising Binary Liquids.**—3300.—March 9, 1886.—Apparatus for utilising binary liquids, more especially aqua ammonia, as a motive power.





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THE WELL-KNOWN APERIENT MINERAL WATER.

### IMPORTANT NOTICE.

By reason of an improved method of caption, by which dilution is avoided, FRIEDRICHSHALL WATER will be found now to be of CONSIDERABLY GREATER STRENGTH and EFFICACY than heretofore.

The ordinary dose is a large wineglassful (4 ounces) taken fasting. Most effusions and more acceptable to the palate when heated or mixed with an equal quantity of very hot water.

"I know nothing at all equal to Friedrichshall. The LONGER it is taken the SMALLER is the quantity necessary to effect the purpose."

SIR HENRY THOMPSON, F.R.C.S., Lond.

Of all Chemists and Mineral Water Dealers. [2]

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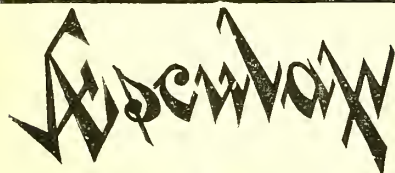
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## TEREBENE.

INFANTS' FOOD, MALTED IN BULK.

PHARMACEUTICAL PREPARATIONS IN VACUO.

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## HUNGARIAN NATURAL MINERAL WATER.

HUNGARIAN APERIENT WATERS have long ago superseded the antiquated German varieties, half the Salts of the latter being USELESS CHLORIDES (chiefly common Salt), whereas the Salts of ÆSCULAP WATER contain NINETY PER CENT. OF PURGATIVES.

ÆSCULAP is the ONLY Hungarian Water advertised to the public, all others having yielded to its UNDOUBTED SUPERIORITY.

THE ÆSCULAP BITTER WATER COMPANY, LIMITED,  
38 SNOW HILL, LONDON, E.C.; and BUDA PEST.

## MUMFORD'S PURE FULLERS EARTH

Finesst powdered, 14s. per cwt; in 7, 14, 28, 56 lb. Packages, 16s. per cwt. ret, bag included, delivered free in London. Samples post free.

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## SILICATED CARBON PATENT MOVABLE BLOCK FILTERS.

SEE ADVERTISEMENT, PAGE 16.

HAY'S SOLUBLE ESSENCE OF GINGER. See page 1.

HAY'S NEW PREPARATIONS. See page 1.

HAY'S COMPOUND FORTIFIED ESSENCE. See page 1.

## EDITORIAL NOTES.

### THE MOST POPULAR MEDICINES

REVERTING to the analysis of ten thousand prescriptions which we published last week, we note that the list as it stands does not give an exact idea of the relative popularity of medicinal substances without some further classification. For example, it will have been noted that, taking the preparations just as they occurred, bicarbonate of soda came sixth in the list with a score of 555, while bicarbonate of potash was eleventh with a record of 447; but on counting the relative frequency of soda and potash in all their combinations we find that the former reaches only 951 altogether, while potash figures for 2,434. Again, while sulphate of quinine takes fifth place, no single opium preparation appears in the first twelve; but opium with all its preparations and alkaloids was prescribed 1,476 times (or 1,563 times if we add the preparations of poppies), while cinchona and its products altogether only attain 936. Spirit of chloroform, it will be remembered, took the top place of all medicaments with a score of 853, and chloroform and all its combinations attain the respectable total of 1,488; but this group is headed not only by potassium, whose 2,434 is the highest figure reached by any one substance, but also by ammonium, which in one form or other appears 2,362 times. The opium group, too, is above the chloroform group if, as we stated, we include poppies in the former. A short glance will suffice to show how much more abundantly alkaline medicines are prescribed than acid compounds, the bicarbonates of soda and potash alone more than neutralising all the acids prescribed as such. Mercury 917, iron 904, bismuth 497, zinc 275, and antimony 114 are the chief contributors from the mineral kingdom. Of vegetable drugs opium leads easily, as already stated; the cinchona group comes next with 936, and then follow those of ipecacuanha, 924; nux vomica (including strychnine), 890; camphor, 715; squill, 654; aloes, 620; belladonna, 509; henbane, 466; rhubarb, 394; gentian, 393; calumba, 293; digitalis, 271; cardamoms, 246; ginger, 237; colocynth, 215; aconite, 205; quassia, 189; cascarrilla, 158; cascara sagrada, 138; taraxacum, 131; senega, 121; podophyllum, 104; jalap, 100; ergot, 96; valerian, 89; buchu, 53; senna, 47; sarsaparilla, 37. This is by no means a complete list of the groups of vegetable drugs that might be quoted, but it includes the most popular remedies. What is very certain, however, is that the order of popularity by no means corresponds with that which is recognised in Mincing Lane. Evidently there are heavy lines of favourite medicines which do not find their way largely into physicians' prescriptions, but which retain their hold over the popular faith or imagination.

The position of many of the substances quoted above is considerably influenced no doubt by the season when the prescriptions were copied; that must be allowed for. Among



other groups not included in any we have named should be mentioned iodine, which is found 570 times, iodide of potassium accounting for more than half of these, and phosphorus, which with phosphates, phosphites, and the whole family of this fashionable medicine, is credited with only 263 orders.

### EARLY CLOSING IN VICTORIA.

THE advocates of early closing at home will be gratified to learn that our Antipodean brethren have reached the longed-for haven. Under the "Factories and Shops Act, 1885" (Victoria), which came into force on March 1, it is required that all shops, except certain specially exempted shops, shall be closed every evening at 7 of the clock, except on Saturday or any day preceding a public holiday, when they may be kept open until 10 o'clock. The exemptions are: Chemists' shops, coffee-houses and other places of refreshment, tobacconists', booksellers', and newsagents' shops. But municipal councils are empowered to make, alter, or repeal by-laws under the Act, and one of the purposes of these by-laws may be for limiting the hours during which the exempted shops may be kept open. On the duly-certified petition of a majority of shopkeepers of any one class, the municipality may make a by-law whereby that class may come under the operations of the Act, wholly or in a modified degree. Municipal councils may also on petition of the majority of any class of shopkeepers grant licences for keeping open beyond the hours specified in the Act; and they may even direct that the shops be closed before these hours. Weekly half-holidays are also arranged for, and power is given to limit the total number of hours during which a person may be engaged in one day, the minimum being fixed at eight hours. The Act provides for periodic inspection of shops, for penalties, and all other means to render it efficient. It will be noticed that there is perfect freedom to all classes under the Act, and if a majority of any one class desires that they should be excluded from its operations they may have their wish granted.

### GIVEN UP BY THE SEA.

IN our issue of April 17 we drew attention to a parcel of exceptionally fine Palembang benzoin which had been offered for sale in Mincing Lane that week, and then stated that this kind of benzoin is somewhat rare in commerce. The parcel excited some curiosity amongst the merchants, but they offered for it somewhat gingerly, and it was ultimately withdrawn, to be sold privately a few days later to a well-known manufacturing firm. The merchants have lost a good opportunity of acquiring an unprecedented curiosity, and lovers of the curious may regret that the benzoin is destined to be cast into the subliming pot. A Capetown correspondent on another page graphically describes the history of this interesting specimen. It would appear that close upon two centuries ago the benzoin was exported by the Dutch settlers in Sumatra, and the vessel on the voyage home was, like many another good ship, wrecked off the Cape of Good Hope, and there at the bottom of the ocean the benzoin has lain all these years. The fresh and undamaged appearance of the drug is apt to raise a suspicion that this is a tale fitter for the marines than for staid pharmacists; but against such an assumption there is the strong evidence afforded by the marks on the cases, and the extreme rarity nowadays of this variety of benzoin. It may be noted that about the beginning of the seventeenth century the Dutch began to displace the Portuguese from their possessions in the Indian Archipelago, and at that time they were the chief collectors of

drugs in the East; and until recent years, indeed, Amsterdam was the principal drug emporium of the world. It was near the middle of the seventeenth century before the Dutch secured a footing in Sumatra, and not until 1664 did they succeed in settling in the town of Palembang. This town, it may be stated, is the principal port of Sumatra, and the chief town of the province of Palembang. Apart from its commercial importance, it is interesting from the fact that it is a kind of Oriental Venice, the houses being built upon rafts which are moored near the river shores. The Dutch continued to hold monopoly of the Sumatra trade for many years, until British enterprise began to do for them in commerce what they themselves had done for the Spaniards and Portuguese. At the time that the benzoin was shipped, viz., in 1691, the Dutch were particularly active, and the Company whose marks are upon the cases had not yet suffered greatly by the competition of our own East India Company. Our correspondents give the name of the Company, whose full title, we may state, is *Vereenigde Oost en West-Indische Compagnie*. This Company at that time had a monopoly of Dutch East Indian trade. It is a singular fact that so much of the rare Palembang benzoin should have been shipped at this early date, and it is not unreasonable to suppose that this was no unusual shipment. We have an explanation in the fact that much, perhaps the greater part of the benzoin used in Europe in those days was for incense, and for this purpose the Palembang was in no degree inferior to the Sumatra resin. Palembang benzoin, as we stated on April 17, does not contain cinnamic acid, and frequently it is exceptionally rich in benzoic acid. In appearance the resin is quite different from the Siam and Sumatra varieties; the fracture shows a shiny, almost uniform brown surface, with patches of white, so that the appearance is rather that of marble than of granite. At present it is undecided what the source of the resin may be; but Mr. E. M. Holmes believes that it is derived from the same tree as Sumatra benzoin. It will be noticed that the term *benzoin* is used on the "rescued" cases. This may be taken as an indirect proof of the age of the consignment, for the word *benzui* was that generally used as a designation before the seventeenth century.

### IS FLUID MAGNESIA LIABLE TO MEDICINE STAMP DUTY?

MESSRS. F. NEWBERRY & SONS have favoured us with copies of correspondence which has recently passed between themselves and the Board of Inland Revenue in reference to another patent medicine question. As we understand, there was some reason to believe that the Board were preparing an attack on some of the fluid magnesia in the trade, though if such was the case it would appear that they did not care to make the first attack on the chief fortresses. Messrs. Newberry therefore drew up a label and asked the Board to say whether it would render the preparation referred to liable to medicine duty. The label was worded as follows:—

CRIPPS'S

PATENT

FLUID MAGNESIA

*As Prepared by the Discoverer*

THOMAS CRIPPS, Consulting Chemist.

This mild, safe, and elegant antacid and aperient possesses all the properties of solid magnesia, without being liable like it to form dangerous concretions in the bowels; it corrects acidity, and effectually cures heartburn, without injuring the coats of the stomach, as soda, potash, and their carbonates are known to do. It prevents the food of infants turning sour,



and in all cases acts as a pleasant aperient, peculiarly adapted for ladies and children.

CAUTION.—As a protection against dangerous substitutions or adulterations, the profession and the public will please observe that the label on every bottle will be authenticated by the signature of the inventor of this invaluable medicine.

(Signed) THOMAS CRIPPS.

Price 1s.

The solicitor to the Board replied on February 27 that in his opinion "Cripps's Patent Fluid Magnesia" should be stamped. On March 1 Messrs. Newbery asked for a statement of the grounds on which he based that opinion, and he replied that, "apart from other reasons, the magnesia is rendered liable to duty by the claim of proprietorship involved in the use of the word 'patent.'" The solicitor was next asked whether the addition of the word "re-carbonated" following "patent" would render the fluid magnesia non-liable. Mr. Melville intimated his opinion that such addition would not affect the liability of the article. Messrs. Newbery next wrote on March 6, submitting their own reasons for regarding the preparation as exempt. They quoted the 3 and 4 Wm. IV. c. 97, sect. 20, which repeals that portion of 52 Geo. III. c. 150 which imposed the tax on "all waters impregnated with soda or mineral alkali, or with carbonic acid gas," and contended that the fluid magnesia came within that definition, and was therefore entirely outside the provisions of the earlier Act. This letter probably awoke some touching reminiscences of Mr. Lamplough in the solicitor's mind. In his next letter (March 9) he asked for a bottle of the preparation for analysis by the chemical officer of the Board. Messrs. Newbery pressed for a reply on the assumption that the label accurately described the contents, but Mr. Melville wrote on March 13 declining to express an opinion "as to the liability to medicine stamp duty of any medicine, in respect of which exemption is claimed, without being provided with a sample for analysis by the chemical officers of the department." He added, "I may say for your guidance that they [the chemical officers] do not consider preparations of magnesia to come within the exemption to which you refer; and it is further to be observed that Henry's Magnesia is specifically charged with duty by the schedule to the Medicine Stamp Act, and is stamped." Messrs. Newbery thereupon submitted a bottle of fluid magnesia which, we believe, had under another name previously been declared liable by the Board, and at the same time they very naturally expressed their inability to see the relevancy of the allusion in this discussion to Henry's Magnesia, which, as they said, cannot in any sense be described as a "water impregnated with a mineral alkali," it being a powder. The concluding letter from the solicitor to the Board of Revenue was dated April 2. He said, "With reference to the correspondence relating to the liability to duty of Cripps's Patent Fluid Magnesia, I have to inform you that from the analysis of the chemical officers of this department, which is now before me, this article appears to be exempt from duty."

That seems to settle the question in regard to fluid magnesias generally, for the label quoted is as definite in claiming proprietary rights and in recommending the preparation for human diseases as can be desired. But the reason of the exemption is not quite clear. Messrs. Newbery's claim seems sound enough, but the solicitor does not admit it. It may be that the Board regard fluid magnesia as exempt on the ground that it is merely a solution of a simple drug; but we doubt whether they would care to fight against the other contention resolutely maintained.

A SCIENTIFIC society at Haarlem (Holland) offers a gold medal and 400 florins (about 33*l*.) for the best treatise, which may be written in English, on the researches of M. Pasteur, to be sent in before April, 1887.

## Medical Cleanings.

### IODIDE OF SODIUM *versus* IODIDE OF POTASSIUM.

THIS is the title of a leading article in the *British Medical Journal* of last Saturday. The bad effects of large doses, or of long-continued administration of potassium iodide, are well known. The disturbing symptoms occasioned by the remedy are generally attributed to iodine, perhaps because potassium is considered a very mild and comparatively harmless base, physiologically speaking. That this is a fallacy recent investigations at home and abroad have shown, and in the article which we refer to the chief disadvantages of the potassium salt are pointed out. When the iodide is administered in large doses, such as are frequently administered in cases of aneurism for example, the first evil effect noticed is an extreme depression. Regarding this the *Brit. Med. Journ.* recalls the fact that potassium and its salts exert this depressing influence, lowering the blood-pressure and slowing the heart. So marked is this action on the heart that large doses (1 oz. and upwards) would probably cause dangerous, if not fatal, syncope, were it not that the emetic properties of the salts are generally manifested in these doses. The results of experiments with potassium and sodium salts are quoted in proof of the statement that in the case of potassium iodide it is the basylous and not the acidulous component which is the cause, and the writer consistently infers that whenever larger doses of iodide are indicated that which should be used by preference is sodium iodide.

Second in the list of inconveniences following the employment of iodide of potassium comes the collection of symptoms, which comprises catarrh of the conjunctival, naso-pharyngeal and respiratory mucous membranes, and headache, known as iodism, as well as other troubles. Some of these can be traced to potassium, but the coryzal symptoms may be due to iodine, and only occur under certain conditions. According to the latest investigations, these conditions are (1) the use of free iodine externally along with the iodide of potassium internally; or (2) the presence of free iodine in the potassium iodide. In either case it is the direct irritation of the free iodine, in the process of excretion or when inhaled as a vapour, which causes the catarrh. From extended trial of sodium iodide it appears that it is as efficacious as the potassium salt, it is more assimilable and causes less disturbance. For these reasons the writer claims for sodium iodide, as well as bromide, more extensive trial. It will be in the recollection of our readers that a strong claim was made for sodium bromide some years ago. At that time it was very little used. Reference to our prescription analysis will show the position which it now occupies. Probably both bromide and iodide would be much more used were they less deliquescent.

### VIBURNUM PRUNIFOLIUM.

SINCE the publication of a note in this column we have had several inquiries regarding *black haw*, the fluid and solid extracts of which are now on fair trial throughout the country. The discussion which was originated in the *British Medical Journal* has been well kept up, and the balance of opinion and results appears to show that the remedy has some claim to rank as a specific for habitual miscarriage.

### SALICYLIC ACID IN ACUTE RHEUMATISM.

IN the third of the series of the Croonian Lectures by Professor P. W. Latham (*Brit. Med. Journ.* p. 730), the use of salicylic acid in the cure of gout and acute rheumatism is favourably spoken of. In the latter Dr. Latham's experience is that the remedy does not provoke cardiac complications in cases where the heart was previously sound. Within forty or fifty hours after the patient has been placed under the influence of the acid the pains in the joints subside, the limbs can be moved, and the body temperature is normal. "But," says Professor Latham, "certain conditions must be observed to ensure success in the administration of the remedy." These conditions amount to seven in number, and from them we may quote the following as of interest to pharmacists:—

First, the true salicylic acid obtained from the vegetable kingdom must alone be employed. If large doses have to be given, the artificial product obtained from carbolic acid should be avoided, however much it may have been dialysed and purified. An impure acid will very quickly produce



symptoms closely resembling *delirium tremens*. Secondly, the acid should be given in its free state without any alkali or base. A very good form is to mix 100 grains with 15 of acacia powder and a little mucilage. Allow the mass to stand and harden, and then divide into thirty pills. The third condition enforces saturation of the system with salicylic acid, just as the originator of the salicine method of treatment (Dr. T. J. MacLagan) required for salicine. Professor Latham administers 20 grains every hour for three times, and in some cases a fourth time, then the same dose every four hours; from 80 to 100, but in severe cases as much as 140 to 150 grains of the acid are administered per day, and after pain and pyrexia have passed away from 40 to 80 grains per day are administered for ten days. With reference to the use of purgatives, Professor Latham says: "Take care to maintain a daily and complete action of the bowels. Calomel is the best purgative, from 2 to 5 grains at night, followed in the morning, if necessary, with a saline draught. This is the most important adjuvant to the action of salicylic acid."

The lectures contain some very interesting reading, specially so to pharmacists who have a turn for chemical intricacies. The chemistry of gout, rheumatism, and diabetes is fully and interestingly treated in the lectures.

#### COCAINE IN DENTISTRY.

SOME success is now attending the use of cocaine in dentistry. At first there was little else than failure, but this was owing principally to the employment of too little. Not less than 1 grain should be injected, and this may be repeated in three minutes if necessary. The grain of cocaine hydrochlorate should be dissolved in three or four minims of water, and an ordinary hypodermic syringe, or one with a curved needle used. The Editor of the *Dental Record* thus describes the operation:—Puncture the gum first on the buccal aspect about the centre of the tooth you propose to extract, pressing the needle as vertically as you can, so that its point may reach nearly as far as the apex of the root. If the sloping surface of the point is turned towards the alveolus, there is less chance of the bone arresting the onward progress of the needle, and this is the chief difficulty in injecting. Having thrust the needle as far as needed, press the piston; often it will not yield even with force, but if you wait patiently, keeping up firm pressure and perhaps rotating the needle, or even withdrawing it a little, the solution will assuredly flow into the tissues. Keep the needle there half a minute, to prevent the possibility of any of the solution escaping by the puncture. Repeat the process with another grain if necessary.

#### TEA-EATING HABIT.

WE noted on April 17 a case of extreme weakness in a young woman resulting from the habit of eating roasted coffee beans, and now have to record a parallel case in which tea was the provocative agent. This case is recorded by Dr. W. B. Slayter in the *Lancet* (p. 784). The patient in this case was a servant girl, who had been in the habit of eating half a pound of tea daily, and sometimes more, and the symptoms produced closely resembled *delirium tremens*. She was sleepless, had powerful twitchings of the limbs, and her mind was the prey of evil spiritual influences. These and other symptoms moderated under treatment with potassium bromide and chloral, but as the cause was unknown for some days effective measures were not until then applied. Then a strong purgative served to evacuate from the bowels hardened masses of semi-digested tea leaves. Purgation was maintained, and under this treatment and sedatives the patient gradually recovered. After an interval of six years the patient again came under Dr. Slayter's care for the same symptoms. The noteworthy points about this case are (1) the non-alcoholic causation of the *delirium tremens*, and (2) the muscular twitchings. The latter is a hitherto unobserved effect of tea, and is contrary to recorded experience. But how much this was due in the present case to direct action of tea, or to abnormal condition of the bowels, is a point which appears to merit some attention.

#### HAMAMELIS.

At the next meeting of the British Medical Association a report on the therapeutic value of hamamelis will be made to the section of therapeutics. The subject is at present receiving attention from the Collective Investigation Committee.

#### GERMAN TRADE REPORTS.

(From GEHE & Co.'s Spring Report. Concluded from last week.)

ACIDUM BENZOICUM ARTIFICIALE E TOLUOLO has declined 25 per cent. in value during the last year, the quality having improved at the same time. As a set-off, the *artificiale ex urina* variety, formerly the cheapest of all, has become dearer, and will soon be counted among chemical curiosities.

ACIDUM BENZOICUM VERUM E RESINA PALEMBANG is as much inquired for as Toluol acid, although the latter is five times cheaper, but on the other hand the acid of Siam-benjamin, which is very much dearer than that of the Palembang gum, is rarely inquired for.

ACIDUM BORICUM has declined 30 per cent. in value during the past year, owing partly to over-production and partly to the war which has commenced between the English and German manufacturers when the Tuscan acid ceased to be an English monopoly.

Boric acid is now largely used in Norway for preserving fish, a mixture of one part of the powdered acid and two parts of fine salt being applied to each layer of fresh fish which is placed in the barrel. The barrel is then closed in the usual manner, and placed in a solution of 10 oz. of pure boric acid and water. About 2½ lbs of boric acid are required per barrel of 800 to 1000 herrings, the cost being about 3s. per barrel.

ACIDUM HIPPURICUM, and its salts of calcium, lithium, and sodium are in great request, the supply frequently not being equal to the demand. The hippurates are much esteemed by French physicians, and are used for the decomposition of urates in the human body.

ACIDUM PYROGALLICUM is an ingredient of certain ointments for skin-diseases, and is particularly favoured by physicians of the Vienna school, but its use in medicine is trifling compared to that in photography.

ACIDUM TANNICUM has improved in price, thus following China galls, from which it is chiefly made, although the low price of ether, another factor in its composition, has prevented the acid from rising in the same proportion as the galls. Tannin is continually gaining importance for technical purposes, especially in dyeing and printing, in the latter branch as a substitute for albumin.

ÆTHYLENI CHLORIDUM.—This old and esteemed anæsthetic has fully maintained its ground; it would seem, in fact, that the demand for it is on the increase, while ethylen chloride and ethylen monochloride—two bodies also obtained in the manufacture of chloral—have fallen into disuse.

ARBUTINUM, obtained from the leaves of the *Ura ursi*, has declined in price. It is administered in doses of 1 gramme by itself or in aqueous solution. Arbutin has lately been discovered in the leaves of the *Vaccinium vitis Idæa* L.

CHRYSAROBINUM.—This powder is much less injurious to the eyes than the araroba, from which it is derived. The workmen employed in the preparation of araroba are always suffering from affections of the eyes, and it would therefore seem as if chrysarobinum were not the irritating principle of the drug.

CAFFEINUM is cheaper than ever before, the increasing demand and the growing scarcity of the crude material notwithstanding. Rich tea is dear, and it does not pay to employ the low varieties. Under these circumstances the introduction of a new material for the production of caffèina, viz. the kola-nut, has become of importance. This nut yields about 3 per cent. of caffèin, while coffee contains 1 per cent., maté ½ per cent., tea 1 to 2 per cent. (sometimes more), and guarana 5 per cent. The famous German explorer, Dr. Nachtigal, had become such a devotee of the kola-nut as to prefer it to either tea or coffee.

SANTONINUM.—The low price now obtaining is not likely to be permanent, as it does not pay the cost of manufacture; and its object, viz. the extermination of weaker competitors, has been attained. The use of santonin is on the decline, especially in Japan, where formerly it was very largely used. The Japanese authorities have lately classified santonin among certain patent medicines which are subjected to a stamp-duty of about 10 per cent.



(From SCHIMMEL & Co.'s Circular.)

**ANISEED OIL.**—In 1885 the Continental crop of aniseed has been from 25 to 30 per cent. below that of the preceding year; but the price of the oil has not correspondingly increased, owing partly to the old stock on hand through over-production. It is computed that in 1885 Leipzig alone distilled 700 tons of Russian anise. The other Continental varieties, and the recently introduced East Indian anise do not seem to meet with the same favour as the Russian seed.

**CAJEPUT OIL** is rapidly losing ground. No reliable statistics are obtainable concerning the production of this oil, which is principally imported from Celebes through the medium of the Netherlands Trading Company. The German Pharmacopoeia admits both the colourless and the green tinged oil, which latter variety derives its colour mostly from copper, sometimes from chlorophyll.

**CAMPHOR OIL.**—The high prices asked for turpentine have favoured the introduction of light camphor oil for japanning and varnishing purposes. This light oil would seem to be well adapted for mixing with linseed-oil varnish and for dissolving copal and other resins, while its smell is claimed to be uninjurious.

**CASSIA OIL.**—This article has been neglected owing to the abundance of cheap perfumes for soaps now placed on the market. The larger perfumers use only the rectified article, and it may be mentioned that in the process of rectification the oil loses from 15 to 20 per cent. in weight. Exporters in China now consign this oil directly to consumers, to the detriment of the European seaports which have until recently received all consignments.

**CEDARWOOD OIL.**—Last summer exceptionally cheap offers of this oil, so much esteemed by perfumers, were made from New York. We understand that this cheap oil is obtained as a by-product in certain pencil manufactories where the drying-rooms have been constructed so as to preserve and solidify the escaping vapour of the cedar-wood. This ingenious arrangement, however, has the drawback that only the most volatile parts of the oil are caught, while the quintessence remains in the wood, thus rendering the oil deficient in consistency and aroma.

**CEDAR OIL (Virginian)** is a new product distilled from the needles of the *Juniperus Virginiana*. There is no employment for this oil in perfumery, but some interest has been shown in it in pharmaceutical circles.

**CITRONELLA OIL.**—Although, for obvious reasons, the Ceylon exporters are chary with information on the subject, it has yet leaked out that the production has doubled in Ceylon during the last three years, being now computed at 9,000 cases per annum, to which must be added the not inconsiderable quantities produced on the Malabar coast and in the Straits Settlements. The bulk of the supply is consumed in America: a single New York firm are said to have bought 3,000 cases in 1885.

**CUBE OIL.**—No reliable information is obtainable concerning the crop of cubebs or the extension of the plantations, but it is certain that last year's crop was a failure. Holland received, during 1885, only 270 bags, which were quickly bought up for export, leaving the market almost bare at the end of the year. Since some years New York has become the principal market for cubebs, which are in the hands of a few speculators there. The cultivation of cubebs, which was rapidly diminishing, may be expected to revive shortly, through the systematic planting now carried on in Ceylon.

**CUMMIN OIL.**—For distilling purposes the Mogadore variety is being pushed to the background by the Bombay cummin, recently introduced, and also by the Syrian variety, which is rich in essential oil. Maltese cummin seldom pays for distilling.

**ELEMI OIL.**—As a novelty the essential oil of the elemi resin has been introduced. It has an agreeable and pungent aromatic odour, resembling that of fennel, mace, and dill. From Manila gum elemi 17 6-10ths per cent. of essential oil was obtained.

**FENNEL OIL.**—A short time ago East Indian fennel was offered in Europe. This fennel shows a fairly large, bright

yellow seed, but cannot successfully be employed for distilling purposes owing to its low percentage and the peculiar aroma of its essential oil.

**PINE-NEEDLE OIL.**—The price of the oil from the *Pinus pumilio* has been considerably reduced in consequence of the competition of several pharmaceutical laboratories recently established in the pine-growing districts of Germany. Many perfumers, however, prefer the oil of the *Pinus balsamea*, the aroma of which may be sensibly developed by the addition of a small quantity of sweet pomegranate oil. The new oil gained from the *Pinus Canadensis* has of late obtained a considerable repute in Germany, and a fresh competitor is expected in the essential oil said to be obtained of the *Pinus Sibirica*, and which is now being distilled on a large scale in the Russian district of Wiatka. It should be added that the last-named variety of conifera is not known in botany.

**GERANIUM OIL (TURKISH) or PALMAROSA OIL.**—It is worthy of note that the designation "Turkish" by which this oil is known commercially is incorrect, inasmuch as it is obtained from India, partly by direct route, partly via Arabia and Egypt, although it is true that formerly Constantinople monopolised the article and placed on the Western markets those quantities which were not required for the purpose of adulterating attar of roses.

**OIL OF HOPS.**—The demand from abroad has been rather brisk. Many experiments have been made with a view of preserving hops during an unlimited time, and it was found that this could only be accomplished by abstracting their essential oil and thus removing the *Fulcerol*, which, if retained in the hops, changes into valeric acid and spoils the flavour. It is now possible to abstract the oil without at all damaging the hops, and it is thought that foreign breweries have adopted the mode of adding the essential oil of hops to their produce after termination of the brewing process.

**LAVENDER OIL.**—The French crop of 1885 has yielded a splendid oil, which has given universal satisfaction, and prices will in all probability keep steady until the autumn. Lavender-camphor is now frequently required for scientific experiments. According to Proust the camphor separates, often to the extent of 25 per cent., if the oil is left in imperfectly corked bottles.

**LEMONGRASS OIL.**—Careful observations point to a decrease in the consumption of this article, which is being replaced by citronella as a perfume for soaps. In rectification the crude lemongrass oil of commerce leaves a large percentage of brown-coloured residuum, which sensibly increases the cost of the rectified oil.

**MIRBANE OIL.**—The benzol market has not experienced any alteration lately, and as the other principal ingredients of mirbane oil manufacture, nitric and sulphuric acid, have dropped to the lowest point conceivable, it is probable that the decline in value of nitrobenzol has now reached its limits. It is otherwise with toluol, which forms the material for the cheaper varieties of mirbane oil. This product can be had at almost any price, and consequently there is no fixed quotation for nitrotoluol, the price of which depends more or less upon the whim of the manufacturer. A reliable test for mirbane oil made of nitrobenzol is that it congeals to a crystalline mass in a very few degrees of cold. The process of re-liquification should be watched very carefully, glass vessels being liable to explode in consequence of the increase in volume of the crystalline mass before it reaches the melting-point. The vessels should therefore be kept in a normal temperature of + 8 to 10°. Zinc-coated containers have been found an excellent export packing for mirbane oil.

**CLOVE OIL.**—It would appear that the centre of the clove trade gravitates more and more towards London, which during 1885 imported eight times as much as Hamburg. Notwithstanding this the German consumer could generally buy to better advantage in Hamburg, the high landing charges mostly precluding business with the latter place. Hopes are entertained that the commercial treaty recently concluded between Germany and Zanzibar will have a favourable influence upon the German imports of cloves.

Clove-stems are mostly bought by Hamburg oil distillers, who carry on a lucrative trade in this article after the oil has been wholly or partially abstracted, but the manufacture of clove oil substitute in that town will probably receive a



serious check in 1888, when the fiscal unity between Hamburg and the German Zollverein will be accomplished. In the meantime the imports of clove-stems in Hamburg show a serious decline: 323 tons in 1883, 211 tons in 1884, 180 tons in 1885.

**OLIBANUM OIL** is now manufactured for commercial purposes and will, it is expected, meet with considerable favour in perfumery. The odour is the same as that of the gum, and close examination reveals a by-odour resembling that of lemons. Olibanum oil is easily soluble in spirit and in fixed oils. Its specific gravity is 0.885, its boiling-point mostly between 160° and 170°. It is thought to be well adapted as an ingredient of choice soap perfumes, compound extracts, and smoker's tinctures.

**ROSE OIL.**—Messrs. Schimmel & Co. regret the—in their opinion—premature revelations which have been made by the Press concerning their new venture, being persuaded that undue haste and uncalled-for publicity can only act injuriously upon their undertaking. They are, however, sanguine of ultimate success. As regards the Turkish oil it appears that recently speculators have taken considerable quantities out of the market, and it is said that the stock has thus been reduced to inconsiderable proportions. New plantations of some magnitude have been laid on, but nothing can as yet be said of the prospects of the crop. Distilling is likely to be somewhat in arrear this season, frosty weather having retarded the flowering of the trees.

**MUSTARD OIL.**—Large quantities of artificial oil are now being placed on the market in opposition to the true oil, viz., that extracted from the seed. A rather complicated analysis is necessary to establish the difference, but a fair test may be found in the odour adhering to a piece of paper after evaporation of the oil. The true oil leaves an agreeable odour of bread or malt, the artificial product at once betrays its "chemical" origin in its odour. This test is only practicable if the operator is in possession of a sample of entirely genuine oil, and the oil under examination contains about equal proportions of true and false oil.

Russian oil of mustard has not appeared in commerce lately, but the new Indian and Californian varieties have attained some prominence.

**SPICEWOOD OIL.**—The American oil, recently mentioned, has as yet only been of scientific interest, the price being prohibitive commercially; but experiments are now being conducted with a view to reduce the cost of this oil, so as to render it useful in perfumery.

**STYRAX OIL.**—By distilling liquid styrax a product has been obtained which may be of great interest to perfumers. It possesses the qualities of a volatile oil, and is composed of styrol and several of the einnamic acid ethers; the latter forming the greater part. The specific gravity of the product of distillation is 0.890; on attaining its boiling-point, between 150° and 300°, it decomposes under emission of einnamic acid. The storax contains about 1 per cent. of the essential oil.

**WINTERGREEN OIL**, of the true variety, is at present scarcely obtainable in commerce; the product now generally offered consists of the extract of the wood and bark of a species of American birch (*Betula lenta*). From 1871 to 1873 wintergreen oil was quoted at treble the present price, but six or seven years ago the *Betula lenta* extract was first placed on the market, thus causing the decadence of the genuine article.

**CUMARIN.**—Quite independently of the price of Tonquin beans, a good demand has sprung up for the manufactured article. For perfumers who wish to use eumarin in extracts, it is advisable to keep it in a solution of 96 per cent. spirit, which materially improves the odour. Dry eumarin is much esteemed in the manufacture of toilet-soaps, and mixed with vanillin, forms a valuable ingredient in creams. Cumarin may be safely substituted for tonquin beans in all recipes, in the proportion of 1½ to 100.

**THYMOL, CRYST.**—The consumption of this antiseptic generally increases with the approach of summer, principally in countries visited by cholera. The raw material (*fructus yponan*) has lately risen in price. Thymen, the by-product obtained in the manufacture of thymol, can be employed in the manufacture of common soap.

## TRADE-MARKS APPLIED FOR.

THE *Trade Marks Journal* publishes the following notice:—"Any person who has good grounds of objection to the registration of any of the following marks may, within two months of the date of this journal, give notice in duplicate at the Patent Office, in the form 'J,' in the second schedule to the Trade Marks Rules, 1883, of opposition to such registration." All communications relating to patents, designs, or trade-marks to be addressed to H. Reader Lack, Esq., Comptroller-General of Patents, Designs, and Trade-marks, Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C.

From the "*Trade Marks Journals*," April 22 and 29, 1886.

"GASTRODYNE," a liquid medicine for human use. Wm. Rogers, pharmaceutical chemist, 38 High Street, Mddstone. 44,750.

"SANITAS;" for articles of clothing. Sanitas Co., Ltd., 2 Letchford's Buildings, Three Colt Lane, Bethnal Green, E. 47,932.

"BOKÖL;" for a preparation of malt for use in medicine and pharmacy, Davis, Bergendahl & Co., 3 Indian King's Court, Quayside, Newcastle-on-Tyne. 48,757. (The same firm register also the same word for the same preparation, but in the second instance the word is enclosed in a bow-shaped frame. 50,445.)

"JOBSON'S CASCARA BITTERS," with description and directions on a label; for a medicine for human use. Thomas Jobson, dispensing chemist, 20 Shepherd's Bush Road, W. 50,784.

"RELIANCE" over a star; for aerated water machinery. Dan Rylands, Stairfoot, Barnsley. 50,812.

Warrior with shield bearing title "Anti-Burton," standing on globe, spearing a serpent winding round a globe, serpent bearing words "Alcohol, drunkenness, ruin;" for a non-intoxicating beverage. Thomas Austin, 12 Tavistock Street, Bedford. 50,911.

Label, black letters on white ground; for "Calvert's No. 5 Carbolic Soap, 4 per cent.," with certain designs. F. C. Calvert & Co., Bradford, Manchester.

"EDWARDS' PRESERVED POTATO," and "EDWARDS' DESSICATED SOUP." F. King & Co., 26 Waring Street, Belfast; and 6 Bishopsgate Avenue, London. 51,025-6.

"GINGER STOUT," "LEMON PUNCH," "LEMON SHRUB," and "MILD ALE," each with signature of proprietors and words "Sole proprietors and manufacturers;" for aerated non-alcoholic beverages. R. White & Sons, Cannon Street, Camberwell. 51,151-4.

"LADIES' MILLE BOUQUET;" for perfumery and toilet articles. J. Richardson & Co., 20-23 Artillery Lane, Bishopsgate Street Without, London. 43,158.

"ROYAL 'STOCKINETTE' BANDAGE;" for veterinary and surgical bandages. George Riley & Co., Adelaide Buildings, Belvoir Street, Leicester. 49,569.

A collie within a diamond of shepherd's crooks, and autograph; for "Wilkinson's Oils," a cattle medicine. George Penrose, Hainton. 49,651.

"ALYSSUM" diagonally printed across a floral design; for perfumed soap, &c. T. Seymour Mead & Co., trading as the "Manchester Soap Co.," St. George's Hall, Upper Mddlock Street, Manchester. 49,970.

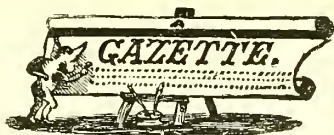
Coat of Arms, consisting of shield and battlement, with lion rampant and three ships in former and lion on latter; for mineral waters. 50,370. The executors of late Richard Anderson, Dale Street, Middlesborough, Yorkshire.

"DIAMOND STAR" in ornament; for chemical substances used in manufacture of paints, &c. R. W. Harrison & Co., 48 Darwin Street, Blackburn, Lancashire. 50,407. The same for india-rubber goods. 50,409.

"THE INFANT'S FRIEND" and autograph; for medicine. Charles Potts, Ilkeston, Derbyshire. 50,554.

Monogram "C.A." in diamond; for syphons and bottles. The Chemists' Aerated and Mineral Water Association, 45 Gifford Street, London, N. 51,172.





## RECEIVING ORDERS AND DATES OF PUBLIC EXAMINATION.

BIRCH, WILLIAM FREDERICK, Birmingham, trading as the "Odontograph Company," registered dentist, manufacturer of perfumes, dental preparations, and dental appliances. May 21. Birmingham.

CLAPP, WILLIAM JOHN, Nantyglo, Monmouthshire, surgeon. May 17. County Court Office, Tredegar.

## RECEIVING ORDER RESCINDED.

DAY, W. H. H., East Dulwich and Peckham Rye, physician. At the High Court of Justice in Bankruptcy. April 17.

## ORDER FOR ADMINISTRATION IN BANKRUPTCY OF ESTATE OF DECEASED DEBTOR.

TANNER, N. W., Crediton, Devonshire, chemist, Exeter Court. April 19.

## ADJUDICATIONS.

DAVIES, F. A., Pen-y-darren, Merthyr Tydfil, Glamorganshire, chemist. Merthyr Tydfil Court. April 21.

SUTHERLAND, H., Southampton Row, Middlesex, patent medicine vendor. The High Court of Justice in Bankruptcy. April 19.

WITHER, H. C., Heigham, Norwich, drysalter. Norwich Court. April 20.

## ORDER ON APPLICATION TO APPROVE COMPOSITION.

JOHNSTONE, J. F., Burdett Road, Bow, and Belvedere chemical manufacturer, composition of 5s. preferential debts in full, &c.; receiving order rescinded. At the High Court of Justice in Bankruptcy. April 20.

## Obituary.

BATTMAN.—On March 30, Mr. T. Battman, chemist and druggist, Finsbury Pavement, London. Aged 43.

BURCHWOOD.—On April 27, Mr. J. Burchwood, chemist and druggist, Frankfort Street, Plymouth. Aged 63. Mr. Burchwood had carried on business in Plymouth for nearly 40 years.

DUPREY.—On February 22, Mr. Jean A. B. Duprey, pharmaceutical chemist, Jersey. Aged 84.

EREAUT.—On April 19, Mr. John Ercaut, pharmaceutical chemist, at his residence, La Motte Street, Jersey.

GRAHAM.—On March 22, Mr. Robert Graham, chemist and druggist, Grasnere. Aged 37.

HALL.—On April 6, Mr. George Hall, chemist and druggist Gatehouse-on-Tyne. Aged 54.

INKLEY.—On April 23, Mr. Jesse Inkley, chemist, Tamworth, at Devonport.

KEMP.—On March 20, Mr. John Botwright Kemp, chemist and druggist, Tivetshall. Aged 55.

MASTERS.—On April 23, Mr. Charles Masters, chemist, at New Street, Worcester. Aged 77.

ROBERTS.—On April 15, Mr. Henry Roberts, pharmaceutical chemist, at Florence.

RODERICK.—On April 9, Mr. Thomas Roderick, chemist and druggist, Pontypool. Aged 56.

SHARPE.—On April 13, Mr. William Sharpe, chemist and druggist, Swannington. Aged 58.

WAITE.—On April 13, Mr. Joseph Waite, chemist and druggist, Cheltenham. Aged 78.

WOODS.—On January 14, Mr. Joseph Henry Woods, pharmaceutical chemist, Warrington. Aged 35.

## Trade Report.

*It should always be remembered that prices quoted in this section are as nearly as can be ascertained the lowest that are actually paid for bulk quantities. Considerable allowances have to be added in many cases before ordinary prices can be ascertained, and for many drugs it must be recollected the range of quality is very wide.*

MINCING LANE, April 28.

The produce markets are slowly recovering from the temporary cessation of business caused by the holidays, and trade in every direction has been extremely quiet this week. No spice sales have been held, and in the chemical market there is hardly any change. The drug sales were very limited in extent, the attendance small, and competition conspicuous by its absence.

ACID (CITRIC) continues to improve, closing firm at 2s. 2d. for spot.

ACID (TARTARIC) is somewhat firmer and quoted at 1s. 9½d. for English, 1s. 7¾d. to 1s. 8d. for foreign. Sixteen casks, imported from Germany, were offered in drug-sale and sold at 1s. 7¾d. to 1s. 7½d. per lb., usual terms.

ALOES.—There was a good supply of *Curaçao* which met with fair inquiry, 140 boxes finding purchasers at 72s. to 107s. 6d. for good to very good pale liver; 54s. to 59s. for fair dark liver of Cape character; 29s. to 31s. for some dull, overheated lots. *Cape* aloes realised full prices, 29s. 6d. to 33s. for good to fine, bright, hard; 20s. to 24s. 6d. for medium to ordinary quality. A single case of black and cindery stuff fetched 10s. per cwt. Of *Socotrine* aloes in monkey-skins only 11 cases were offered, all of which sold at 75s. to 77s. 6d. per cwt.

AMBERGRIS.—Two tins of inferior quality, dark-coloured, and of soapy flavour were bought in at 75s. to 85s. per oz., greatly over value.

ANNATTO.—A few baskets of fine soft *Pará* roll, bright in colour, are held at 2s. without finding buyers.

ANTIMONY remains quite neglected, 17l. 10s. is asked for crude Japanese, but this price must be considered nominal.

BALSAMS.—No change for the better can be reported in *Peruvian*, of which only 1 case, of fine clear appearance, was sold at 5s. 6d. per lb. A parcel of 17 cases *Tolu* was sold in a lump at the low price of 1s. 2d. per lb.

BALSAM BARK.—The 7 bags *Myroxylon Pereira* which were offered in public sale on February 18 last were again put up without finding a purchaser, which is not astonishing, as the bark is almost devoid of balsam.

BEANS.—Nine cases *Tonquin*, of the *Pará* character, were bought in at figures ranging from 1s. 7d. to 1s. 9d., but there was not a good case in the lot. Three cases common, foxy beans, are held at 10d. per lb., 9½d. being refused.

BUCHU LEAVES.—There was a good assortment, comprising altogether 52 bales, mostly of the round variety, and of fresh appearance. One bale long narrow leaves externally stained realised 9d. per lb., 4 bales round 2d. to 2½d. for good green, 1½d. for broken leaves.

CARDAMOMS.—The small supply of 111 cases attracted rather less attention than before, and was only partly sold at irregular and, in some instances, slightly lower prices. A parcel good brown unclipped *Aleppey* was reported sold at 2s. 10½d. previous to auction, in sale 1s. 6d. to 1s. 8d. was paid for fair, and 1s. 3d. for partly open pods. *Ceylon-Malabar* realised 2s. to 2s. 4d. for yellow to pale, clipped, rather small mixed; 1s. 6d. to 1s. 11d. for small brownish to medium sized, but dull; and 1s. 3d. for dark country-damaged quality. 3s. 2d. was paid for fine, pale, plump *Mangalore*; 2s. 4d. to 2s. 7d. for darker and smaller ditto; while seeds fetched from 1s. 3d. to 1s. 8d., according to quality.

COLOCYNTH.—Six cases *Spanish*, broken and shrivelled apples, containing a large proportion of seed, realised 8½d., while some *Turkish*, not very much better, is held at 1s. 3d. nominally.



**CHEMICALS.**—*Soda nitrate* is quoted at 11l. 5s.; *Bicarbonate* unchanged; *Caustic* still quoted at 8l. for cream, and 8l. 5s. to 8l. 10s. for white, 60 per cent. *Sulphate of Ammonia* has experienced a further decline, and is now obtainable at 10l. 10s. in London, and 10l. 12s. 6d. in Hull.

**CINCHONA BARK.**—The supply consisted almost exclusively of flat South American *Calisaya* (73 bales). A few bales of the good, hard, bright, orange-coated bark, much esteemed on the Continent, found buyers at 2s. 7d. to 2s. 8d. for sound, 1s. 8d. to 2s. 2d. for damaged quality; while a parcel of soft *Savanilla* is held at 1s. 8d. per lb. Six serons spurious *Loxa* bark changed hands at 7½d. to 9½d. per lb.

**CONDURANGO BARK.**—Two bales of dull appearance and rather old import sold at 7d. per lb.

**CUBEBS.**—Only five bags of very doubtful quality, the berries broken and mixed with stalks, were offered and readily bought at 11l. 2s. 6d. per cwt.

**CUTTLEFISH.**—Ten baskets, partly discoloured and broken, were sold at 1½d. per lb.

**ERGOT OF RYE.**—A fine parcel of recently imported Spanish ergot was shown, but the price asked appears too high to tempt buyers.

**GALLS.**—633 bags *Turkey*, mostly blue, but including a fair proportion of white galls, were catalogued, and the sound lots mostly bought in, while the damaged ones and the sweepings sold well at 40s. to 52s. 6d. for third to first class damaged blue, 39s. for very badly damaged blue, 47s. to 50s. for second to first class damaged white, and 39s. to 51s. for sweepings.

**GREENHEART BARK.**—Of this article, almost obsolete in pharmacy, 10 barrels were again offered in vain; a price of 10s. per cwt. was suggested without eliciting reply.

**GUARANA.**—A bid of 4s. 5d. per lb. on two boxes was declined, and the parcel bought in at a nominal price.

**GUAZA.**—Although 30 bales, rather dusty and stalky, were all bought in, an offer of 3½ for a single lot seemed likely to lead to business.

**GUMS.**—Of 44 cases *Ammoniacum*, 2 packages only, partly blocky, dark and mixed with seed, were sold at 30s. per cwt. An offer of 42s. for 4 cases good yellow drop, small and bold mixed, was refused, while 45s. is asked for fine pale grain, and 35s. for good, but more or less woody block. As regards *Arabic*, the better qualities of *Turkey* are still held at prices too high to induce business; an offer of 102s. 6d. for fine pale Cape gum, siftings and small drop mixed, was declined by the broker; Amrad and Aden remain without inquiry, and the only parcel sold was one of fine Aden siftings, which realised 45s. per cwt. A sorrier show of *Benjamin* than that offered yesterday is not frequently met with; it consisted of 10 cases common, false packed Palembang, which found a purchaser at 29s. to 34s. per cwt. Four cases *Dragon's Blood* of low quality, cakes in reed—a mode of packing which has lately become familiar—were bought in at 90s. *Elemi*, good whitish quality, is held at 40s., somewhat above market value. Of *Gamboge*, a few cases were sold, fair, rather dark pipe, partly run, at 12l.; dark and discoloured ditto, at 8l. 10s. A good quantity of *Myrrh*, numbering altogether 98 packages, was catalogued, but, receiving no attention whatever, the whole was bought in. 7l. 5s. is asked for good pale selected Aden.

**HONEY.**—Neglected, and saleable only at lower rates, 27s. to 28s. 6d. being accepted for dark brown to good clean *Jamaica*. 109 packages *New Zealand*, and 34 cases *Trinidad*, all bought in.

**IPECACUANHA.**—Easy. Of 48 packages only 7 were sold at 3s. 3d. for good annulated root, partly wiry mixed, and 3s. to 3s. 3d. for good stout, partly sea-damaged and mouldy root. A few bales of fine hand-picked root are held at 4s. 2d. to 4s. 3d. per lb.

**KAMALA** is again lower and held at 5d. to 6d. per lb. by different brokers; bids of 4d. and 5d. respectively being declined. A parcel just landed is limited at 60s. per cwt.

**MUSK** was sparingly offered, and all the *Tonguin* sold for export at about previous prices, viz., 76s. 6d. to 77s. for fine pile 1, very thin skinned and without under-skin, but slightly

damp; 65s. to 66s. for pile 1, small to bold pods, rather thick under-skin and damp; 25s. for low damp *Yunnan*, one-third false-packed, and 56s. for fair dry grain.

**NUX VOMICA.**—263 bags Bombay all sold at 11s. 6d. for fine bright quality; one lot realised 12s. 9d. per cwt.

**OILS (ESSENTIAL).**—Twenty-five cases pale-coloured *Camphor* sold at 1½d. per lb. Of *Cinnamon* 3 cases bought in, pale yellow of fine aroma and taste, at 1s. 11d. per oz.; ditto, of doubtful quality, at 1s. per oz. For 1 case of *Cinnamon Leaf* 1½d. per oz. was offered. About 60 cases *Citronella* sold after sale at 1½d. per oz., and 4 jars *Lemon* were bought in. Six pounds *Menthol* crystals realised 10s. per lb. This oil is at present quite neglected. A single bottle *Ylang-Ylang*, of the Z. and C. mark, which had been repeatedly offered before, now found a purchaser at 5s. 6d. per oz.

**OILS (FIXED).**—A few casks Newfoundland *Cod-liver* are held at 2s. to 1s. 10d. for straw to gold tinged. *Cocoa-nut* flat and easier for most varieties, Cochin in pipes being now quoted at 28l. 10s. to 29l. Ceylon is 5s. cheaper. Mauritius remains unchanged. *Cotton* now quoted at 14l. 10s. for crude on the spot in London, and 13l. 10s. for ditto in Hull. Refined on the spot is worth 16l. 15s. to 17l. 10s. in London. *Linseed* has remained slow of sale, selling at 40s. for Calcutta and 41s. for Bombay on the spot. *Olive* has slightly recovered, 33l. having been paid for Mogadore, while Taranto and Seville are also firmer. *Palm* unchanged, but quotations merely nominal. *Rape* quoted at 20l. for English brown on the spot, and 21l. 10s. to 22l. for refined ditto. *Petroleum* unchanged. *Turpentine* about 3d. lower.

**ORANGE-PEEL.**—Two bags *Maltese*, good bright ribbon, sold at 6½d. per lb.

**RHUBARB.**—116 chests were offered, of which only 21 sold at cheap rates, no fine root being placed in sale. *Shensi*, round, of medium quality, but good external appearance, sold at 1s. 9d. to 1s. 10d., inferior and small pickings, rather rough coated, at 1s. 1d. *Canton* root, small to medium size, flat, rather dark fracture, realised 1s. 5d.; country-damaged ditto, 10d. per lb.; *high-dried*, medium to bold root, with good pink fracture and yellow coat, at 1s. 4d., and small *Shensi high-dried*, of somewhat unsightly appearance, at the same price.

**ROOTS (VARIOUS).**—Forty bags small but fairly bright *Colombo* bought in at 40s., being over value. Six bales *Licorice* sold at 12s. Five bales *Pellitory* of recent import are held at 46s. per cwt., an offer of 42s. being declined; 57 bags of clumpy *Rhatany* remained unsold; a parcel of very fine root, of which a sample was exposed in one of the brokers' show-rooms, is shortly expected; 64 bales *Scammony*-roots are held at 38s.; they have been offered time after time without success; 2s. 2d. is asked for 8 bales, fairly good, but rather lean *Senega*.

**SARSAPARILLA.**—Seventy bales were offered, but found little favour, and lower prices would probably have to be accepted in order to come to business. For *Honduras* of the well-known "crown" brand, 1s. 5d. per lb. is now asked, and 8½d. for slightly damaged Guayaquil. Fourteen bales *Lima-Jamaica* were sold at 1s. 2d. for sound, and 1s. to 1s. 1d. for damaged root.

**SCAMMONY** is hopelessly neglected, and 8 cases retired unsold.

**SEEDS (VARIOUS).**—Spurious *Star-Anise* has at last found a buyer in public sale, though, as he prudently bought through a broker, we regret being unable to give his name. The purchaser in question, after sharp competition, secured 10 bales "sound" at 22s. 6d., and 25 bales "mouldy" at 16s. 6d. per cwt. Other varieties are firm and in good demand at 29s. to 30s. for Russian, and 30s. to 40s. for Levantine. Our trade in *Canary* has been very steady during the last fortnight; arrivals were limited to a few hundred bags Barbary seed, while deliveries to the home trade as well as for export were considerable. Our stocks are smaller than in previous years, and were it not for the absolute absence of speculation, higher values might have been ruling now. Our quotations remain unaltered; ordinary Turkish seed, 45s. to 46s. 6d., fine 48s. to 50s. Morocco, 50s. to 55s. per 464 lbs. Spanish seed remains very firm, and as much as 80s. is being paid for the same. The demand for *Caraway* has been steadily



maintained, our requirements being still considerable until the new crop. Good seed on the spot has realised fully last values, and in some instances a small advance. Owing to the scarcity of inferior qualities, Dutch seed has had to take the place of ordinary Russian and Swedish seed. *Cummin* commands last values. Sixty bags *Dill* from Bombay sold at 6s. per cwt. *Fennel* of new crop offered at 21s. to 22s. per cwt. Trade in *Fenugreek* keeps quiet, and the demand is moderate. *Linseed* is lower, owing to large arrivals, although it appears that the trade has for a long time been living from hand to mouth. Calcutta 39s. 6d. ex ship; Bombay plentiful on spot, realising only 40s. 6d. Fine Dutch has lately been in demand at 52s. 6d. to 55s., according to quality, per 424 lbs., but Sicilian remains very scarce. For two boxes West-Indian *Musk* 9d. per lb. is asked. The trade for *Rapeseed* remains steady, with but few arrivals of good seed. English seed without offers, French 46s. to 48s. per 424 lbs. Crushing descriptions are neglected.

SENNA continues to maintain its high value. There was rather a fair supply of *Alexandria*, one lot of which, fine, picked, green leaves, is held at 1s. 3d. per lb. *Tinnerelly* sold at 7d. to 8½d. for very fair pale green leaf of medium size, and 2½d. to 3d. for common dark, partly damaged.

SPICES.—Black *Pepper* is firm, and fair transactions have taken place at 6¾d. to 7d. for Singapore, and 6¾d. for Acheen. White Singapore is selling at 11¾d. per lb. *Pimento* firm at 2½d. to 2¼d. per lb. *Cloves* firm at 7¾d.

SULPHATE OF QUININE.—In consequence of German competition, Messrs. Howards have reduced their price for early May delivery to 2s. 10d. per oz. for bulk, 3s. in vials. Whiffen's brand has been reduced to 2s. 11d. for bleached sulphate in vials, and 2s. 9d. for ditto in 4-oz. bottles or tins; 2s. 9d. for unbleached in vials, 2s. 7d. for ditto in 3-oz. bottles or tins. German in bulk is quoted at 2s. 7½d., and Pelletier's in bottles at 2s. 10d. per oz. This week 1,000 oz. of this make in second hands were sold at 2s. 9½d.

The New York Quinine and Chemical Company has been reorganised, and will hereafter be known as the New York Quinine and Chemical Co. (Limited), with Robbins & Robbins, agents. The new concern is composed of five incorporators and the same number of stockholders, and has a capital of \$400,000, \$350,000 of which is already paid in.

TAMARINDS neglected and without business.

VANILLOES.—Only 40 tins were offered, nearly all badly-cured beans, which were sold at very high prices, quality considered. Seven tins *Vanillon*, sold without reserve, realised from 1s. 1d. to 3s. per lb.

WAX.—*Jamaica Beeswax* sold at somewhat cheaper rates, viz. 127s. 6d. to 130s. for rather dark to fairly bright quality, *Australian* at 122s. 6d. to 125s. for one-half to three-fourths dark. For 40 cases good white *Japan Vegetable Wax* in squares 57s. is asked.

On Thursday, May 13, a consignment of different Japanese goods will be sold by auction, including 5 bales Obaku bark, 10 tubs Japanese honey, a tin of keri oil varnish, &c.

OVER-PRODUCTION of Caucasian petroleum has compelled the firm of Nobel Bros. to reduce their prices for this article, an example which has been followed by other Russian petroleum houses.

GERMAN NAVIGATION BEYOND EUROPE.—The Belgian newspapers announce that next June Antwerp will be made the starting port of the new line of the North German Lloyd's steamers to China and Australia, as well as of their transatlantic lines. This company, it is further stated, have arranged that the Danish steamship company's vessels shall bring to Antwerp goods exclusively destined for transit by their ocean steamers; and they have likewise made agreements with German and Russian railways for favourable through rates on goods sent to Antwerp for shipment in these steamers. The German Lloyd's are thus seeking to monopolise the carriage of outward goods from Germany and Northern Europe, and may also try to make preferential arrangements for inward goods. This scheme, if fully carried out, will affect the *entrepôt* trade of British ports, as well as the carrying trade of British steamers in Northern ports.

## THE AMERICAN MARKETS.

NEW YORK, April 21.

SINCE last week the market has shown no improvement for the better, for, although a fair amount of business is passing, it has not reached the expectations of the wholesale houses. The demand for export continues light, the number of orders in the market being few and unimportant.

The prices sterling (in parentheses) are what the different articles would cost delivered in London, all market allowances, discounts, &c., being taken into account. Importers can therefore see at a glance the course of this market compared with their own.

ANNATTO.—Several parcels of prime bright red, in baskets, arrived from Para. As yet they have not found buyers, the price, 35c. (1s. 6½d.), being considered too high.

TONCA BEANS.—The stock of *Paras*, which was large, has been further augmented by heavy arrivals, and, demand being dull, it is probable low prices will prevail. To-day the quotation for dark, partly frosted beans is 40c. (1s. 9½d.); ordinary dry beans, partly foxy, are quoted at 30c. (1s. 4d.). *Angostura* are very steady, at \$1 70c. (7s. 4d.) to \$1 75c. (7s. 6d.).

BALSAM COPAIBA.—This week 37 barrels arrived from Para, and were taken for the home trade. Price did not transpire. Four barrels good Maranham arrived, and brought 29c. (1s. 4d.).

BALSAM TOLU.—Some arrivals also took place, but are not yet offered on the market. This article is in a very depressed condition at present. Some parties talk of it going to 1s. per lb., or less.

COCA LEAVES.—During the week the weak holders, getting frightened at the heavy stocks, sold out, and now the quantity in first hands is as follows:—Prime Huanuco leaves, 45,000 lbs., dark green; Maranon (Truxillo) leaves, 30,000 lbs., light green; Columbian leaves, 400 lbs., small green long leaf. More than half the stock of Huanuco leaves is controlled by one house, and is held for 40c. (1s. 8½d.); some might be picked up in second hands at 35c. (1s. 6½d.). There is no demand for the Truxillo leaves, and prices are merely nominal. The Columbian leaves are not often met with; are of poor quality, appearance, &c., besides containing, like the Truxillo, uncrystallisable cocaine.

BROMINE.—There is no alteration in the combination, but owing to the slackness of demand manufacturers of the salts began to cut the price against each other, and a decline in price of bromide potassium has to be noted. In 100-lb. cases to-day the quotation is 34c. (1s. 5¾d., 5 per cent.). Had they to draw their supply of bromine at the present combination price of 37c. it would not pay to manufacture at this figure, so that as yet they have not run out their contracts or used up all their old stocks of bromine.

CASCARA SAGRADA BARK.—The low rates of freight from the Pacific coast allowed this article to be offered of late as low as 6c. (3½d.), and an enormous business has been done. Manufacturers were wise in laying in large stocks, as such low prices cannot be expected to last.

COD-LIVER OIL.—The extremely low rates prevailing for Norway oil has caused a total absence of inquiry for Newfoundland, which may be considered as almost unsaleable at present.

SPERMACELE.—Makers appear very anxious to sell at the high rates lately ruling, but they meet with little inquiry.

QUININE.—The position of affairs is unaltered, and is in an exceedingly unsatisfactory condition all round. If it does not pay manufacturers at 60c. (2s. 7½d., 5 per cent.) it is strange that they are so eager to book orders; anyway, the opposition, cutting, and war between the domestic makers and the foreign are now worse than ever, while a new interest is added to the fight, by the domestic manufacturers cutting against each other.

OIL PEPPERMINT.—No improvement in the demand has to be noted, and, owing to the tactics lately pursued, all sorts of prices are to be heard; but, in spite of all this, strictly pure Wayne County oil in tins cannot be bought under \$4 (16s. 6d. net).





### Memoranda for Correspondents.

*Always send your proper name and address: we do not publish them unless you wish.*

*Write on one side of the paper only; write early; and devote a separate sheet of paper to each query if you ask more than one, or if you are writing about other matters at the same time.*

*If you send us newspapers please mark what you wish us to read.*

*Ask us anything of pharmaceutical interest: we shall do our best to reply.*

### Given up by the Sea.

*To The Chemist and Druggist:—*

SIR,—By this mail we have taken the liberty to forward you a sample of gum benzoin, which, it will no doubt interest many of your readers to hear, has been embedded under sand and sea for nearly two centuries. In the olden times, as you are aware, this was the calling port of most of those richly-freighted Dutch East-India Company's merchant ships, and there is no doubt whatever that this gum was being carried from the East to the European markets by a vessel belonging to that Company, when she became a wreck on the shores of Table Bay. Besides the gum, a large quantity of pure copper in bars has lately been recovered by divers, together with china, earthenware, crockeryware, &c.

The lids of two cases, in which the gum was packed, have been recovered (one is in our possession), and they are not only, like the gum, in a state of perfect preservation, but they bear very plainly upon their surface the marks and numbers painted on in 1691. It seems almost incredible that after a lapse of 195 years, being exposed to the action of sea-water during the whole of that time, the wood (cedar) should be quite sound and the letters distinctly legible.

The following is a copy of the marks on the lid referred to:—

No. 143.	* A°// 1691
Cabeff Benzoin	
Netto	300 lbs.
Tarra	61
Bruto	361 lbs.

Here we have the Company's mark V. O. C. [Vereeniga Oost (India) Compagnie], the number of case, year in which it was packed, and *probably* shipped, contents, and weight. Perhaps some of your subscribers will give us information regarding the word "Cabeff."

Having thoroughly exhausted a sample of the gum with S. V. R., we found it left a residue of only 7.7 per cent. of wood, &c., whereas a sample of "elect" benzoin, as found in commerce at the present day, similarly treated, yielded no less than 34.9 per cent. woody matter.

We may add that upwards of a ton of the gum has been recovered, and we have shipped the whole to our agents, Messrs. Horner & Sons, Aldgate, by whom it will probably be placed on the London market.

We are, yours truly,

Cape Town, April 7.

J. T. POCKOCK & Co.

### Lanolin versus Œsypus.

*To The Chemist and Druggist:—*

SIR,—The letter of Mr. Frederick Gall respecting lanolin, which you published in your issue of April 17, contains some errors which I may be allowed to correct.

It is indeed true that wool fat under the name of Œsypus has formerly been used in medicine, and some months ago I had already drawn attention to the fact in the Berlin

Medical Society. I had noticed that Ovid and other old authors had mentioned Œsypus as a medicament and a cosmetic. The first accurate description of the manufacture of Œsypus is given by Dioscorides, and in the following centuries all authors have used the prescription of Dioscorides, and have altered it but little. This also applies to the description given by Nicolas Culpeper, 1650, and quoted by Mr. Frederick Gall. The medicinal use of Œsypus had, however, been lost in the seventeenth century, although it was still mentioned by some writers. The reason for this has probably been that at that time it was not understood how to isolate the pure cholesterine fats and the other fatty substances which are analogous to it. According to the description of Œsypus it contains all those impurities which are found in wool fat in the crude state; it contains saponified rancid fatty acids, putrid nitrogenous matter, and other bodies as yet undefined, which are in a continuous state of decomposition. Lanolin is a pure and neutral fat prepared from Œsypus, or crude wool fat; it keeps, being pure, without change, and its purity prevents the undesirable effects which would be caused by the application of crude wool fat or Œsypus. On account of their impurities wool fat and preparations made from it have in the course of centuries justly been discontinued as medicinal agents. Impure preparations of that kind easily cause infection and irritation of the skin. After so-called Œsypus or wool fat had gradually grown obsolete on account of its impurities I would not have ventured to recommend its application now. Lanolin, however, representing a neutral fat perfectly free from all impurities, such as had not hitherto been known, I was able to introduce it into therapeutics. I was able to do so all the more because, as I have shown in my investigations, the kinds of fat which constitute lanolin are contained as a normal ingredient in the skin, the hair, the nails, and keratinous tissues generally.

Any further information of historical or chemical interest that I may obtain in the course of my investigations I shall not fail to bring to the notice of THE CHEMIST AND DRUGGIST.

I am, dear sir, your obedient servant,

DR. OSCAR LIEBREICH  
(Professor of Materia Medica in  
the University of Berlin).

Baden-Baden, April 20.

### By-law or Bye-law.

*To The Chemist and Druggist:—*

SIR,—May I venture to say a word in defence of those (I am not one of them) who spell *by-law* with "a superfluous vowel"? The case for the alternative form does not appear to me quite so strong as you would make it.

The real root of the word, according to the best authorities, is the Scandinavian *byr*, meaning primarily a single house or farm, and afterwards a town in general. It should be noted that modern derivatives of this root vary much in spelling, the nearest to the original being the northern *byre*, a cow-house. In the "Cursor Mundi" (A.D. 1290), when the word first appears in English in its larger sense, it is spelled *bi*, as also in the old ballad "Guy of Warwick"—

Pa'dler bern was non in *bi*,  
His name was hoten Sir Gii;

but nothing positive is to be inferred from this, for orthography was in those days far from fixed, and more modern writers, using the word in the same sense, almost always spell it *bye*. As a suffix in place-names it varies from *-bere* or *-beor* to *-by*, this last being a contraction of the other and truer forms. (See Taylor's "Words and Places.")

As regards its composition with *law* I have nothing to object to what you say, except that the root-word of the prefix being not Anglo-Saxon but Scandinavian, we should look to the dialect of that part of the country where the Scandinavian element predominates for the true form of the compound word. We find it, possibly, in Yorkshire, in which county several townships are still called *Byer-laws*, from the fact that courts called *Byer-law courts* were formerly held there. This form certainly approximates closely to the original, and in it the *e* is not "superfluous."

It may be added that such authorities as Marsh and Kingston Oliphant invariably spell the word *bye-laws*, and that there is some advantage in thus distinguishing between this word, compounded of two substantives, and such words

\* [Here the Company's mark, a W over o c intersected by a large V.]



as *by-path* and *by-way*, which are compounds of a preposition and a substantive. In any case the matter is not very important, and perhaps the best way of regarding it is Artemus Ward's, when he said, "He is a poor creature who can't spell a word in more ways than one."

I am, &c.,  
C. C. BELL.

Epworth, April 26.

P.S.—Of course nothing I have said is meant to upset your derivation of our *by-law* from the Anglo-Saxon *bilage*. My point simply is that we must go further back for the root of the disputed syllable, and perhaps for the whole word. Our modern English comes from many sources, and *byer-law* or *bye-law* may be as good Scandinavian as *by-law* is good Anglo-Saxon. I find I was mistaken with regard to Marsh. He spells the word *by-law*, but his English editor, Dr. Smith, uses the other form.

C. C. B.

[The "superfluous vowel" does not get much advantage from C. C. B.'s defence. No doubt it is quite possible to find plenty of modern authority for it; we stated that fact ourselves. The suffix *by* to names of places alluded to by C. C. B., as in Derby, Rugby, Grimsby, &c., does not prove much as it stands, but so far as it goes it is in favour of the spelling *by*. There are hundreds of such places in England, and we do not recollect one spelt with the *bye*.]

#### Preparations v. Patents.

To The Chemist and Druggist—

SIR, — I feel sure that if all chemists would only be up and doing, instead of sitting still and lamenting the loss of profits on patents, we should see far less on the subject in your valuable columns.

When I took my present business, which is now three years ago, patents were sold here at full prices, but finding that all chemists round about were selling at the reduced prices, viz. 10½d., 2s. 3d., 3s. 9d., &c., I came into competition with them and cannot say that I regret the step, for my patent account is now treble what it was, and thus get the same profit as did my predecessor out of one-third the quantity, but I get a decided gain by the number of customers. I decidedly prefer to have two customers at 2s. each than one at 4s. Occasionally I get a customer who will quote some one's list price. I never argue the point, or let him go without it, if it bears any profit at all, as I deem it advisable to keep them out of such places as much as possible.

On first entering here, I resolved to put up my own preparations in competition with all the largely advertised medicines, and have now a total of 61 preparations, and last year sold 300% worth of the same, and my returns have gone up during the three years 50 per cent. In fairness I must state that one preparation is responsible for 102%, and the only advertising this article has had during the last two years is 20,000 handbills, but then it is an article in almost universal demand, and I have been written to for it from Ceylon, America, France, Belgium, and all parts of the, as yet, United Kingdom. The wholesale trade during the past year have not had 5% worth of the said preparation, so you will readily see that I reap the benefit of my own sowing.

When putting up for stock my numerous articles I take a note of the quantity in a book, which I keep specially for the purpose, and at the end of the year summarise them under various headings. Last year they ran thus in round figures: Internal remedies, 124%; external, 115%; hair preparations, 15%; skin cosmetics, 15%; tooth preparations, 17%; perfumes, 18%; disinfectants, 9%.

Now I know full well what the cry of some chemists will be against this system. "Look at the expense of printing matter, viz. labels and bills. Will it pay?" Others will point to the experience recently given in your columns of a patent that was advertised. To the first I will say that I have not a single preparation that has not long since paid for its printed matter, and have still a good stock on hand; neither have I spared any expense in getting my labels out, as you will see by the enclosed specimens. I also put the articles up in a neat and attractive form. I believe careful attention to the external appearance gives confidence about the efficacy of the internal properties. To the second would I say, if you put up a preparation, be sure it is one there is likely to be some demand for; and if you go in for advertising

other than by handbills, it must be done systematically and persistently, for it is only by keeping the preparation thus before the public that you can ever hope to succeed; and I believe that the home consumption of patents is very small compared with the export—thus the reason for persistent advertising. Since commencing this letter I have been asked for a well-known patent. I got it out, as is my custom, and then showed a syrup and embrocation I have for the same purpose, and by a little tact sold the two in place of the patent, which I put back in the drawer, well satisfied so to do. Now my contention is, that if I had not had printed labels for these, and had them ready to hand, I could not have sold them. The customer would not have been satisfied if I had told him that I could make him something that would be equally efficacious with the patent. I do not study too closely the cost of a preparation if it will bring 50 per cent. of its return, or cent. per cent. on its cost. I put it thus that I may not be misunderstood. I am content and leave it to make its own name, knowing that I have done my duty by it, and not cut down the formula for the sake of making false profit; for I have yet to learn the art of making a good preparation without using the material. I know many chemists flatter themselves on knowing that art. I frequently call the attention of customers to the little care that has been bestowed on the external appearance of some well-known patent, and suggest it is quite within the range of possibility that no more has been given to the quality of its component parts. I would suggest that all chemists should bring out all the preparations they can in opposition to the advertised patents; many of mine owe their sale entirely to being introduced when I have been asked for some patent. To the credit of assistants I must say that customers will not always take from them what they will from the proprietor of an establishment. The other day a man called and asked to be allowed to fix some tablets of well-known patents on my windows. I told him he could do so on signing an agreement to pay the sum of 1% per annum for each one put up. I need hardly say my window is still without any. Why should I or any other chemist give away our fronts for advertising other people's goods? I always feel sorry when I look in chemists' windows and see patents occupying so much of the space and such prominent positions. I fear it must be that they have not preparations of their own to put in, or is it that they have no formula wherewith to make them? For myself I have always been a collector of formulæ, and indexed the same, so that I could readily refer to them, and also at the bottom of each write the source, and am not ashamed to say that the initials "C & D" occur many times therein, so I am rarely ever fast for a formula or the base of one; some of my preparations are modifications of recipes which have appeared in your paper. If this should stimulate but one chemist I shall feel amply repaid; and if all will but keep a strict account of all preparations put up for a year, they will certainly find it most encouraging to future efforts, and next year we might see in your paper an analysis of preparations sold by 1,000 different chemists. If chemists would but go in for this they would find but little time for sitting in that room which in our business it seems so essential should be in direct communication with the shop. In my eye it looks bad to come out of a room, serve a customer, and whilst the customer is leaving walk back again. I fear this is the chemist, so often seen in your columns under various *noms de plume*, who is persistently telling us that the trade is going to the dogs, and he is quite content to sit still and let it do so, without looking for a preventative. Preventative measures are always better than remedial ones.

Yours truly,

ONE WHO BELIEVES THERE'S LIFE IN THE OLD  
TRADE YET.

#### The Bankruptcy Act, 1883.

To The Chemist and Druggist—

SIR,—I have read your article on the above matter in your issue of March 27. The subject mentioned therein is no doubt of great importance and interest, not only to your readers, but to a wide circle of persons outside the particular branch of trade which you represent. Having had a large personal experience since 1847, under four different Acts of Parliament, I can claim to speak on the subject with some special knowledge. Undoubtedly the opinion you express



as to the success of the measure in carrying out the intentions of its authors and in raising commercial morality by its penal clauses is a fact which cannot be controverted by its opponents.

There are, however, several points of practice not correctly described by the writer of your article. In reference to the so-called "blots in the Act," it should be borne in mind that the practice in the County Courts is not identical in many particulars with that existing in the High Court of Justice Bankruptcy Departments.

As to the stringency in reference to proofs and difficulties complained of by creditors and their representatives in not being heard at meetings, it may be hoped that such practice, the relaxation of certain stringent regulations, may be assimilated by the county officials to the London practice, and thus secure by a more smooth working greater popularity. You speak of no power to adjourn meetings for the purpose of admitting proofs. Your writer must have overlooked the inherent right of creditors at any meeting to adjourn, not only for general purposes but for any specific purpose, limited to twenty-one days, but which adjournment can undoubtedly be repeated if necessary and reasonable.

I have made some inquiries respecting the matter of Ashwin, to which you allude, and find it was a summary case in which the official receiver was bound to act as trustee unless the creditors by a special resolution appointed one themselves. A meeting of creditors was summoned at the instance of creditors for the purpose of appointing a trustee, and at this meeting the Official Receiver held several proxies, all of them special proxies, under which he had no option but to vote in accordance with the directions of the creditors. On the one hand he held a special proxy from a large creditor, representing about 10,000*l.*, directing him to vote for the appointment of a trustee; on the other hand he held several proxies from small creditors directing him to vote against such an appointment. At first the number of small creditors prevailed against the amount of the larger one. The meeting was kept open for some time, and eventually some of the creditors who had given proxies against the appointment of a trustee were induced by the solicitor of the large creditor to alter their minds and to vote for a trustee, whose appointment was thus carried. It will be seen, therefore, that the receiver throughout acted on the mandate of the creditors and made no effort whatever to retain the administration of the estate. On the contrary, by keeping the meeting open after he might have legally closed it, he enabled the creditors who were not present when the meeting commenced to subsequently withdraw their proxies, and thus to appoint their own trustee.

As regards prompt realisation and rapid winding-up of estates, I consider this a "merit and a demerit" in the Act. It must be a most exceptional case in which the interests of the creditors are benefited by delay in realisation. Expenses have an unfortunate habit of increasing so long as the assets remain unrealised. Property deteriorates in value, and often what "goodwill" there may be left in a bankrupt's business is lost through the Official Receiver being precluded from prompt realisation. In reference to the grocer's case, I was myself concerned, and know that the Official Receiver would have been glad to have accepted the fifty pounds for the horse and cart, but there was no adjudication, and the debtor did not desire realisation, consequently the sale stood over compulsorily. Meanwhile the horse became lame, and thus deteriorated in value. This case proves the truth of my views in regard to prompt realisation. I hope to see the Act amended in this respect. Such alteration will benefit creditors interested, although it will naturally be opposed by professional administrators.

As to keeping the administration in the hands of the officials, it is obvious that there can be no power whatever to do so contrary to the wishes of creditors. In many instances creditors have been anxious to leave the winding-up of their debtor's estate (in now summary cases) in the hands of the Official Receivers, but have been unable to do so owing to the excluding provisions of the Act.

Rules as to lodging "proofs one day before a meeting," it is impossible to explain the reasons which caused the rules a question to be drawn as in the Act. Shortly, such rules enable Official Receivers to carefully examine such documents beforehand, preventing waste of time in reference to bogus claims, provide that proofs shall rank in their proper order,

thus protecting *bonâ-fide* creditors' interests from being swamped. The "absurd stringency" mentioned has been greatly relaxed by the Official Receiver in the High Court of Justice.

I notice with satisfaction the fact, which your writer admits, that expenses have been largely curtailed. Interested persons most industriously propagate the contrary statement. Actual experience in the working of the Act is slowly bringing round a change in public opinion on this point.

In reference to private deeds, the making of such deeds can only be checked by creditors themselves; so long as creditors join in such documents the Bankruptcy Act cannot be so great a success as it should be, not being used in a large proportion of insolvent cases. It is an undoubted fact that there are considerably more of such documents current than was the case prior to the passing of the Bankruptcy Act of 1883; but it would be the height of folly to have a new Act for the purpose of legalising such documents, or to have them registered as "bills of sale"; because, without a provision enabling a majority of, say, three-fourths to bind a minority, there would be no special object in registration so far as the public are concerned. Creditors do not want to know of those cases in which they themselves are interested, they merely want to know about those cases in which their neighbours are concerned. To establish a mere register, without provisions for binding a minority, would be absurd; no one would trouble about it. On the other hand, such compulsory legislation involves a supplementary Act, concurrent with the Act of 1883, hardly likely to be sanctioned by Parliament. If ever such second Act were passed, it would simply be an offer to solicitors to use whichever Act pays best.

I have just received a summary of the Chief Official Receiver's receipts and payments in a small case in which I recently acted. The figures speak for themselves:—

## 1886. Receipts.

## 1886. Payments.

April 6.	£ s. d.	April 6.	£ s. d.
To total receipts to date..	—	By fees, costs, and charges under Rule 105, viz,—	
„ deposit .. ..	5 0 0	By Board of Trade and Court fees	9 10 2
„ proceeds of stock, &c.	60 0 0	By Gazette notices and incidental expenses ..	1 14 4
„ book debts .. ..	38 10 7	By law costs ..	2 9 1
			13 13 7
		By preferential debts paid, including rent, &c.	6 10 0
		By amount of dividend of 4s. 6 <i>d.</i> in the £ on proofs admitted for 33 <i>l.</i> 6 <i>s.</i> 2 <i>d.</i> ..	74 19 11
		By amount reserved for claim, valuers' charges, &c. .. ..	8 7 1
	£103 10 7		£103 10 7

I venture to say, under no Bankruptcy Act prior to the present one would it have been possible for an estate of about 100*l.* assets to have been wound up at an expense of less than 20*l.*

I thoroughly concur with the latter part of your article as to the necessity of more uniform practice, but cannot at all agree with the suggestion that creditors should have power to examine a debtor on oath at the first meeting, for obvious reasons.

I am, sir,

Your obedient servant,

51 Gracechurch Street, E.C.

WILLIAM IZARD.

## The Pharmaceutical Examinations.

## To The Chemist and Druggist—

SIR,—I venture to ask space for a few lines on a matter of some interest. I will endeavour to be as brief as possible. I understand that in the examinations which have been held



this month at Bloomsbury Square, a large number of candidates have been cheekmated by Mr. Tanner on a single point, viz. the process and manner of estimating spirit of nitrous ether. One of course makes considerable allowance for the eager perorations of rejected candidates when the brow is frowning and the spirit angry. We accept the picturesque accounts of injuries received with the usual grain of sodium chloride. But I have heard that from a large number of candidates there comes a distinct and consistent account of Mr. Tanner's summary jurisdiction on this particular question of spirit of nitrous ether.

I passed the Minor examination on Wednesday last; but if it had been my ill-luck to have had Mr. Tanner in pharmacy, and he had thought fit to whip his old nag of nitrous ether into the light of day for my estimate of that wonderful animal's points or his nitric oxide, I am afraid my interview would have been brief and unsatisfactory, though no doubt Mr. Tanner would have been complacent enough in the matter. I find in the *Pharmacoepœia*, with respect to the preparation I have named, that the aspirant after knowledge is referred to the "*Pharmaceutical Journal*," 3rd series, vol. xiii. p. 631, or vol. xv. p. 101, or vol. xv. p. 673, for this interesting process, the knowledge of which Mr. Tanner thinks is *par excellence*, the crucial test of a pharmacist's capacity.

I cannot help thinking that the gentleman whose name is so familiar to us all, and who has perhaps a somewhat unimpeachable reputation among pharmaceutical students generally, is deficient in judgment and a sense of proportion such as one might expect in a gentleman whose profundity is beyond question.

If Mr. Tanner will not think me impertinent, I should recommend him to put his *Pharmacoepœia* on the shelf for a time and take up Herbert Spencer, or better still an English version (if he does not know German) of Kant's "*Critique of Pure Reason*" instead, and if he will intelligently and with diligence read and try to grasp the philosophical spirit, perhaps the narrowness and pedantry, or, as I might call it, the crudeness, of his nature would be toned down, and the angularities of his mind made smooth.

Even if one admits that the point Mr. Tanner insisted on is an important one, it is, in my opinion, manifestly unfair to pluck a candidate on a single question. Let an examiner take away marks by all means; but let him also be broad and honest enough to give a man a fair examination with a view of testing his general knowledge, and not trot out some miserable broken-winded hobby with a view of flooring the surprised candidate.

I cannot find terms severe enough to express my condemnation of the system Mr. Tanner has pursued during his official career, and I should like to ask him if he thinks it a gentlemanly or a chivalrous action to buy or rather manufacture a pair of patent boots designed for the purpose of tripping up, and if possible flooring, the unwary. Mr. Gerrard—who is Mr. Tanner's colleague in pharmacy—is a different stamp of man entirely; the former seems to be animated with that spirit of fairness which is the first characteristic of a gentleman, and his object is to thoroughly test a candidate's knowledge without, however, trying to trip him up over some speciality or other, and I venture to think that Mr. Gerrard will pluck no man who has a fair knowledge of his subject; at the same time I would also express the conviction that he will pass no candidate who has not a respectable knowledge of his subject.

What we expect to find, and what as a matter of fact we do nearly always find among the gentlemen who conduct the examinations is that they are courteous in their manners and possessed of a pleasant urbanity—they have an obvious desire to be fair and just, and a ruling principle with them is to find out a man's worth, and, as he proves competent, to pass him, or, incompetent, to reject him.

For my own part I cannot refrain from speaking of the gentlemanly tone of the examiners I have had the pleasure of meeting. Mr. Corder examined me in botany, Mr. Bengier in *materia medica*, Mr. Greenish in dispensing, Mr. Gerrard in pharmacy, Mr. Taylor (I believe) in prescription reading, and Mr. Blunt in chemistry. All were most fair and judicious in their examination, and at the same time most courteous in their manners.

I beg to remain, yours sincerely,

F. J. BYRNE.

34 Iligh Street, Notting Hill, W., April 18.

## Be Charitable.

### To The Chemist and Druggist—

SIR,—I suppose there is nothing to equal the blind zeal of a fanatic. Let a man imagine himself to be a champion (in any cause), and there is no wild absurdity or eccentricity of which he will not be guilty. Surely the remarks which have been passed against our examination are what the French call "*Parler avec afféterie*." I hope the persons who have taken the trouble to do so are suffering from nothing more serious than simple "*malade imaginaire*." If a man is ruined through taking his failure to heart, as one correspondent implies, in my opinion his position is one of hopeless degradation and contempt; but these bitter facts (?) brought to light are easily exhausted of their suggestiveness. Doubtless they who run down our qualifications, had they themselves passed the coveted barrier, would ignore their own previously expressed opinion and chant in an exactly opposite key; but as surely as an examiner, or whoever the luckless individual may be, treads on the mental (or pedal) corns of one of our pessimists, so surely do we have raised this periodical dyspeptic wailing and gnashing of teeth. Concerning those wretched fellows who do give up in despair reminds me of a vulgar song I once heard (I don't know the origin), perhaps one verse will be sufficiently suggestive—

Prussic acid, prussic acid,  
Down my throat I'll quickly tuck it,  
For I never shall have rest  
Until I've somehow kicked the bucket.

In the letter of our Westmoreland friend I see nothing but a delusion and a myth, both being supported by a shadow. Intending candidates might just as well try to extract sunshine from cucumbers as consolation from such a letter as "*Unqualified*" dictates, whilst, turning to the epistle of "*Chemicus*" (by the way, I think "*Miserrimus*" would have been more appropriate as a *nom de plume*), I should imagine he has reached that stage when, like Sophocles of old, he thinks it is best of all not to be born, and next best to get quit of life as soon as we can. Probably these lines of Tennyson may have a hidden meaning for him:

Tears, idle tears, I know not what they mean,  
Sprung from the depths of some divine despair.

It has occurred to me that he in one sense resembles the man who wrote a book to prove that the end of the world was come, and took a lease of a house for twenty years on the proceeds. Many are the people whose lives are made up of fuss and feathers, whose education, mind, and experience are also fuss and feathers, the feathers sticking out awkwardly enough at times, showing the naked flesh beneath. Judging from some of the remarks, it seems to be a case of lamentation that such a genius as "*Qualified but Underpaid*" has not appeared sooner to illumine the pharmaceutical horizon. What discontent! If a man sticks manfully to his work, is honest and impartial in all his dealings, he will, I trust, find himself appreciated. It is like going from a vault into the cheerful sunshine to examine the letter of "*Q. but U.*" who, I must say, exhibits a spirit of cheerful and more Christian-like character. If "*Chemicus*," cannot sit on a throne he at least need not squat on a mud heap, which I consider he is doing. Let him be loyal to the society which grants qualifications to those who strive for them, let him take hope, holding his judgments in suspense, his opinions in solution. Let him make allowances, putting himself in other people's places, take broader views of things; let him be kindly and charitable, at the same time avoiding the statement of extremes, and I think he will at least have found one way out of his dilemma. Is it not better "*To strive for the good, than to rail at the ill.*"

Neither evil tongues,  
Rash judgements, nor the sneers of selfish men,  
Nor greetings where no kindness is, nor all  
The dreary intercourse of daily life,  
Shall e'er prevail against us, or disturb  
Our cheerful faith, that all which we behold  
Is full of blessings. — Wordsworth.

I am, &c.,

Rochdale, April 19.

H. WILSON, Pharm. Chemist.



140/74. *C. E. L.* wishes a formula for **Miscible Tincture of Myrrh and Borax**. We do not have such a formula, and do not consider that it is possible to make a preparation of myrrh which will mix clear with water, unless a large amount of alkali or a small proportion of myrrh be used. It is possible to carry the craze for "miscible" things too far.

140/18. *R. W.*—**Sand Balls**.—Want of cohesion is due to want of soap. You may best shape them with a mould.

141/49. **Peat Smoke**.—An acid will not touch wool. The use of such oils as huile de cade, oil of tar, or oleum rusci, in the liquors in which the wool is washed, are more likely to give the desired result.

63/142. *A Subscriber*.—**Ginger-beer Powders**.—Mix  $\frac{1}{2}$  oz. bruised ginger,  $\frac{3}{4}$  oz. cream of tartar, and 4 drops essence of lemon, with as much powdered sugar as will make a packet of presentable size. Direct that the powder be added to 1 gallon of boiling water containing 1 lb. of lump sugar. When nearly cold float a piece of toast on the liquid, on which place two or three tablespoonfuls of good yeast, and set in a moderately warm place to ferment for a day or two. Strain and bottle.

143/8. *Dens*.—See **Medical Gleanings**.

144/51. *G. F. M.*—**Jacob Bell Scholarship**.—The knowledge of botany, chemistry, &c., required is such as you may get from Macmillan's primer series of science text-books; but you can best judge of the nature of the examination from past years' questions, which will be found in the Pharmaceutical Society's Calendars.

144/34. *H. T.*—**Dandruff**.—Some good advice is given in our 1884 Diary. The hair should be washed, at least once a week, with warm water and carbolic soap just at bedtime. Use the following pomade daily, brushing thoroughly after applying it.

Hydrag. ox. flav.	..	..	..	..	gr. x.
" ammoniat.	..	..	..	..	gr. iv.
Ung. camphoræ	..	..	..	..	3ss.
" simplicis	..	..	..	..	3iss.
Ol. neroli.	..	..	..	..	gtt. ij.
Otto rosæ	..	..	..	..	gtt. ij.

Fiat unguentum.

143/49. *Cherry*.—**Malted Food**.—Some experience is required in baking the biscuits, and a slow oven is essential. Kitchen ovens are generally unsuitable, because their temperature cannot be controlled sufficiently. It is for this reason that we recommend the actual baking to be entrusted to a practical baker. The food that you refer to may be made in this way. Of course all burnt portions of the biscuits have to be scraped off before they are ground.

145/14. *H.*—**Herb Beer**.—It is impossible to say how much proof spirit the beer which you make may contain—that is a matter depending upon the conditions of brewing, &c.; but we should think that it will contain more than 2 per cent. You may determine the alcoholic strength by placing 10 oz. of the beer in a retort, distilling 6 oz., making this up to 10 oz. with distilled water, and from the specific gravity calculating the percentage of proof spirit.

*S. J. N. T.*—**Chlorodyne**.—The preparation afforded by Squire's formula is very satisfactory, although it is said that there are other preparations which more closely resemble the original. But it answers your rather strict requirements. Your white preparation evidently requires the addition of some acacia.

19/145. *Country*.—**Koumiss**.—Take fresh cows milk enough to occupy about four-fifths of a quart champagne bottle, add 1 oz. of granulated sugar, and a teaspoonful of

good beer yeast. Cork firmly, shake well, and place the bottles in a cellar, turning them up and down a few times each day. The koumiss will be ready after about five days and will keep good for about twenty days. For fuller particulars refer to the Diary, 1884, p. 118.

145/12. *H. S. H.*—**Remington's Practice of Pharmacy** is a work which will suit you. Procter's lectures are excellent for the pharmacy of the British Pharmacopoeia.

145/4. *J. B. N.*—**Tubercular Bacillus**.—Some time ago there was a talk in a few daily papers about a discovery made by an Italian investigator (Professor Cantani) of a bacillus which is capable by inoculation of exterminating the tubercular bacillus from the human system, and so curing consumption. As far as we are aware the "discovery" has not been seriously taken advantage of by medical practitioners. Our correspondent wishes, however, to try the cure, and would be glad of information as to how the *Bacterium termo* may be propagated. Failing that, Professor Cantani's address.

#### Information Wanted.

Address of a Chester firm who make stone jars (tapped).  
*J. L. S.* (145/6)

**Soda Tannate** for preventing boiler incrustation. *Anticalcæ* (143/57) wishes recipe.

[Caustic soda is used, and also tanner's waste, but our correspondent wishes formula for "soda tannate" in a fluid or moist crystal condition.]

144/52. *B. G.* asks:—"Do you know of a good oil-stove for laboratory use? I am wanting it to use where gas is not obtainable, and I can only find stoves on the old paraffin-lamp principle, which defeat their object by deposit of soot on the vessel." [Inquire of the Albion Lamp Company, of Birmingham.]

59/145. *J. G. S.*—We have published many recipes for hair washes and hair dyes, and cannot think it would be generally satisfactory to republish such. If you will let us know definitely what you would like we will try to supply you. The Pharmacy Act does not prevent the sale of castor oil, senna, &c., by unregistered persons. Such business is perfectly legal. It is only the sale of certain poisons which is limited.

45/33. *W. H. T.*—**Brilliantine**.—The following is from THE CHEMIST AND DRUGGIST DIARY, 1884:—

Castor oil..	..	..	..	..	3j.
Almond oil	..	..	..	..	3vij.
Glycerine..	..	..	..	..	3iij.
Jockey club bouquet	..	..	..	..	3j.
Rectified spirit	..	..	..	..	3ij.

M.

Any other perfume may be used. A trace of sap-green or of "Silver Churn" annatto may be used to colour.

144/15. *R. Watts*.—**Eau d'Arquibusade** is an old French aromatic water used for applying to wounds. It is made from the following recipe:—

	Parts.
Olei absinthi	..
" lavandulæ	..
" marjoram	..
" mentha piperitæ	..
" rosmarini	..
" rutæ	..
" salvæ	..
S. V. R.	1,000

Dissolve and add

Aquæ tepidæ	..	..	..	..	1,250
-------------	----	----	----	----	-------

Agitate the mixture frequently and filter.



144/7. *Principia*.—Digestive Candy.

Powdered ginger..	..	..	..	3ij.
" rhubarb ..	..	..	..	3iij.
Carbonate of magnesia ..	..	..	..	3j.
Granulated sugar ..	..	..	..	1 lb.
Water ..	..	..	..	8 oz.

Boil all together until the proper consistency is acquired, and add 40 drops of oil of peppermint immediately before pouring out.

144/8. *Transfers*.—No dye that we ever heard of will sink an inch into stone. It would be your best plan to get pebbles different in colour (naturally) from those in the river bed.

## Legal Points.

48/144. *M. & S.* ask:—"If we do not hold a wine licence, and a doctor's prescription be handed us to dispense containing 'Coleman's beef and malt wine,' must we refuse to dispense it?" [You may dispense it in prescription just as you are permitted to dispense sherry or brandy—namely, in combination with medicinal agents. A written order from a medical practitioner for a bottle of the wine will not convert an illegal sale into a legal one.]

72/143. *M. R.*—A preparation with the label you send would no doubt be liable.

55/143. *R. J. W.*—An unregistered person cannot legally be a partner in the business of a chemist and druggist.

50/143. *Nemo*.—You can judge better than we can whether your customer is telling the truth or not, and whether it would be good business to offend him for the sake of 7s. 6d., which after all you might not recover in a court.

30/144. *Gamma*.—It was ruled by the Court of Appeal and confirmed by the House of Lords, in the case of the Pharmaceutical Society v. London and Provincial Supply Association (see THE CHEMIST AND DRUGGIST, April, 1880, and previously), that a "limited company" is not a "person," and is not therefore affected by clause 15 of the Pharmacy Act. Consequently a limited company may keep open shop for the sale of poisons with or without qualified managers, and no shareholder or director of such company need be qualified or on the register. We are not aware that the case has been tried in Ireland, but the Irish Act is so worded that similar arguments would apply, and no doubt (at present at all events) an Irish Court would adopt the ruling of the highest English Courts.

40/259. *A. W.* asks:—"Is it legal for a limited company to call themselves 'Pharmaceutical Chemists'?" [According to the judgment of the House of Lords, in the case of the Pharmaceutical Society v. The London and Provincial Supply Association (Limited), a limited company, not being "a person," may assume the title "Chemist and Druggist." The Pharmacy Act, 1852, protects the title "Pharmaceutical Chemist" by a form of words similar to that by which the Act of 1868 protects the title "Chemist and Druggist," and it might be argued that a limited company was unaffected by that Act equally. But we imagine the Pharmaceutical Society could proceed by obtaining an injunction in such a case independently of their Act. A limited company, we should suppose, would have no more right to steal the title which is the private property of the Pharmaceutical Society than they would have to adopt the trade-mark of a private firm.]

46/144.—*Nilla* asks, "Can a master compel apprentices to take duty on Bank Holidays, Sundays, and Good Friday, nothing being stated in indentures about it; and also whether a master can compel an indoor apprentice to remain in the shop after 8 o'clock, such being the limit named in his indentures?" [A master can only claim reasonable service. An apprentice would be supposed to have understood the

nature of the business to which he bound himself, and must on his side be willing to render reasonable service, even though that should sometimes infringe on his hours of rest. But whatever is stated in the indentures is binding.

11/144. *Overworked*.—A month's notice is the custom of the trade, even though you are paid quarterly, and would be considered legal. You cannot demand holidays.

## Boric Acid as a Preservative.

Messrs. Sulman & Berry, 14 Chetwynd Road, N.W. send us a letter regarding our strictures as to the conclusions which they arrived at in respect to the use of boric acid as a preservative (THE CHEMIST AND DRUGGIST, before page 250). They say:—

"Our conclusions were strongly upheld by C. E. Cassal, Esq., F.C.S., F.I.C. (the well-known sanitarian), at the time the paper was read, and you may have noticed a paragraph in the issue of the *Lancet* for April 10, also endorsing the same view. It is a point that deserves more attention, especially as it is rumoured that the preservation of imported fish is to be largely effected by  $H_2BO_3$  in future—a proceeding against which we enter our emphatic protest.

"Boric acid is one of those salts [*sic*] which readily pass from the human blood into the milk, and hence is actually transferred from the mother who has partaken of milk so treated to the infant she is suckling.

"And from the fact that all young children depend most largely upon milk for their diet (far more than adults as to actual quantity), it follows that observed ill effects in grown persons consequent upon continuous use of boric acid will be greatly magnified in children and infants. Upon these grounds we consider the prevalence of boric acid milk and food preservation most serious."

[This question as to the physiological effect of boric acid has lately been discussed by several eminent medical practitioners, in reference to its use as a fish preservative, and the decision is quite different from Messrs. Sulman & Barry's. Amongst those who have made a study of the subject, and have pronounced in favour of the acid, is Dr. Matthew Hay, Professor of Medical Jurisprudence in the Aberdeen University. We accept medical testimony on physiological matters in preference to the opinions of chemists on the same.—*Ed. C. & D.*]

## Retail Prices.

## To The Chemist and Druggist—

SIR,—I hail your weekly issue as a boon to the trade generally, and the disposition shown in your pages to regard the trade side of our business as well as the scientific. That something must be done by chemists generally if we are not to lose the sale altogether of proprietary articles and patent medicines seems to be generally admitted. To sell at store prices is, I conceive, impossible, but some concession to the demand for lower cash prices might be granted. What is required is that some agreement should be come to among chemists as to what the reduction should be. When you have finished your analysis of prescriptions it might not be a bad idea to get a similar analysis of a dozen principal articles, such as Eno's, Cockle's, &c., the price at which they are sold, and how many disposed of at the price in a month. Most people now expect at least some reduction from the price attached to these. A 10-per-cent. profit, I apprehend, will not pay living expenses to the chemist, even if it does to the grocer, but something between 10 and 25 per cent. might be agreed upon as the profit which a chemist should ask. At 25-per-cent. profit all the above could be sold at something less than marked price, and this would be better than losing the trade altogether. I also think that the articles of domestic consumption, such as borax, carbonate of soda, ammonia, saltpetre, sulphur, glycerine, castor oil, and perhaps sweet spirits of nitre, and sal volatile, &c., might be offered at reduced prices when taken by the pound, in contrast to the price per ounce; but there is great difficulty about it, as the public will not see the necessity of buying the larger quantity, and will want their usual small quantities at the lower price.

I am, sir, your obedient servant.  
Chichester, April 19. EX. GENTIAN.



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### METHYLENE.

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**COMPOUND ANÆSTHETIC ETHER,**  
For producing Local Anæsthesia.

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**ETHYLATE OF SODIUM**  
(Dr. RICHARDSON'S Formula), for removing Nævi, &c. In ½-oz. & 1-oz. Bottles, with elongated Stoppers for applying the Caustic, 2s. 6d. & 4s.

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For promoting the Healing of Wounds by the first intention  
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**CHARCOAL CAPSULES,**  
Containing Pure Vegetable Ivory Charcoal.  
In Boxes, 2s. 6d. each.

OXFORD ST. 147



*Silver Medal at Inventions Exhibition 1885.*

Established  
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## FLUID EXTRACT OF CINCHONA,

made from C. Califaya, or C. Succirubra, containing the whole alkaloidal contents of the bark.

## QUININE, CINCHONA ALKALOIDS,

Acids, pure.

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Antimony preparations.

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# SIR JAMES MURRAY'S PURE FLUID MAGNESIA.

*The ORIGINAL Article, as prepared by the Inventor, Sir James Murray, M.D.*

For over 60 years in use as an excellent remedy in cases of  
**ACIDITY, INDIGESTION, HEARTBURN, GRAVEL, AND GOUT.**  
Sold by all respectable Chemists, in **LARGE-SIZED** Bottles (the 1s. size containing nearly  
*Double the quantity* usually sold at that price), at **1/**, **2/6**, and **3/6** each.

**CAUTION.**—Observe that the Signature of the Inventor is on every label.

## SIR JAMES MURRAY'S FLUID CAMPHOR

Is a valuable remedy in cases of **SLEEPLESSNESS** and **WEAK NERVES**. Bottles, **1/** and **2/** each.

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The Original Preparation, as approved by the Medical Profession  
on account of its known composition and uniform strength.

Retail at **13½d.**, **2s. 9d.**, **4s. 6d.**, and **11s.**

We beg to inform our numerous customers, and the Trade generally, that we are **WITHDRAWING THE 4-OZ. AND 10-OZ. DISPENSING** sizes, and, instead, are putting up **AN 11s. RETAIL SIZE**. The wholesale price of the **4s. 6d.** and **11s.** will be at the same rate per oz. as the old 4-oz. and 10-oz. We shall still continue the undermentioned as usual.

## LIQ. CHLORODYNE

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50 YEARS.

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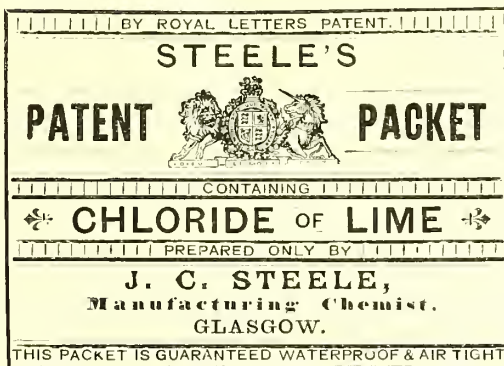
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Packed in  
uniform-sized Boxes at  
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12 doz. 1d. size	...	8/-
8 " ¼-lb. "	...	8/-
4 " ½-lb. "	...	7/6
2 " 1-lb. "	...	7/-

Assorted Boxes, containing 8 1-lb.,  
12 ½-lb., 16 ¼-lb., 32 1d. size, 7/9.

Above Prices are subject to usual Wholesale  
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Our Packets  
are air-tight, waterproof,  
neat, and clean, with full directions  
for Disinfecting and Bleaching  
purposes, containing Lime of best  
quality and full strength.

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Samples on application.

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The most Assimilable and Nutritious Extract of Meat yet offered to the public Materially Cheaper and Superior to all similar Preparations,

Containing all the nutritious constituents, including the Albumen, of Fresh Meat Peptonised, i.e., so prepared that it is instantly assimilated without requiring the process of digestion. Invaluable to Invalids and persons of weak or impaired digestion, and in all cases of Dyspepsia, Poorness of Blood, Debility, &c.

In Extract of Meat form: in pots of 3½ oz. (retail, 2/-) ... 1/6 each	In Dry Form: Tablets in envelopes of about 7 oz. (retail, 4/-) ... 3/ each
" " " " " 8 oz. (retail, 4/-) ... 3/	" " " " " Lozenges in boxes (the most sustaining nourishment in the smallest possible compass) ... 1/- ... 9 "
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**CHARMS,**NERVOUS HEADACHE,  
Metal Cases, 6/ per dozIN HARD WOOD BOXES,  
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Preferred to all Makes hitherto used.

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Single and in Nests.  
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Chemicals, Drugs, and Oils at lowest market rates.

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(REGISTERED).

NEW HYPNOTIC.

One Bottle . . . . 4/6 One Dozen . . . . 40/  
One Gross, 10 per cent. discount.

FOR SALE BY ALL WHOLESALE AND EXPORT DRUGGISTS.

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**JELLY,**

EQUAL TO AND CHEAPER THAN VASELINE.

**SANITARY FLUID AND SHEEP DIP,**  
THE CHEAPEST AND BEST DISINFECTANT.**GREASE, PITCH, ASPHALTE, AND ALL PRODUCTS OF TAR AND ROSIN.**  
*Samples and Prices on application.***GRINDLEY & CO., POPLAR, LONDON, E.**

SAVE OVER 30 PER CENT. BY USING

**PARAFFINUM MOLLE. P.B.**

(REFINED IN VACUO.)

A translucent, perfectly neutral, inodorous, tasteless, and soft (not granular) hydrocarbonaceous jelly. Sp gr. at melting point, 0.885. Soluble in ether. Cannot become rancid or saponified. Prices—Yellow, 5 lbs., 3/1; 40 lbs. 21/. White, 5 lbs., 5/1; 40 lbs., 35/1. *Tins free.***PARAFFINUM DURUM. P.B.**Answers all Pharmacopœia "characters and tests," 9d. per lb. Sample pound of  
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**EUXESIS,**For SHAVING without SOAP, WATER or BRUSH,  
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**Starch Gloss**Makes Starched Linen like new. Does not stick to spider-like Materials.  
Once tried always wanted. Used in the Royal Laundries. Sold every-  
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**LONDON, E.C.****STOWER'S PURE**  
**LIME JUICE and LEMON JUICE**  
**PREPARATIONS,**  
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*Can be obtained through the Wholesale Houses.*



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7,	16,	and 30 oz. Bottles	} Cases extra.
4/	8/	12/- per Dozen.	
1	Gallon Tins	... 50/- per Dozen.	
5	,,	Drums, 3/9 per Gall.	} Inclusive of Drums and Casks.
36	,,	Casks, 3/4 ,,	

*Full Instructions for use on each Package.*REPORT FROM AN EMINENT SHEEP FARMER IN SOUTH AFRICA.  
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OFFERED BY  
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We direct attention to the exceedingly fine quality of our No. 1 BEST LIGHT CRUSHED LINSEED, containing all the Oil.

It is crushed from a special growth of Linseed, which being extremely fine and bold, and at the same time having an exceedingly thin skin, gives when crushed a very large proportion of Meal to Husk.

We guarantee it to be strictly Pure, and cannot be too emphatic in stating this. All particles of dirt, grit, foreign seeds, &amp;c., are carefully removed, and our increasing sales show that our care in this respect is appreciated. Nothing better can be obtained.

It is lightly crushed, and will keep far longer than when heavily crushed and bruised, as in this case, the Oil being partially pressed out, the sample is darker, and will not keep so well. Applications for samples invited. Always esteeming your orders,

**W. KEMP & SON.****No. 1.- BEST LIGHT CRUSHED LINSEED,** containing all the Oil, guaranteed strictly pure. 18.6 per cwt. Bag free.

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*Who hold Stock and supply 1 cwt. at above price, and smaller lots at 20/- per cwt.*

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MANUFACTURING CHEMISTS.

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SPECIALTIES—

Morphia Alkaloid, in powder and crystals, and all its Salts, Codeia,  
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OF 5 BISHOPSGATE AVENUE,  
Have Removed to more Extensive Premises at  
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SOLD EVERYWHERE.

**WOODS' ARECA NUT TOOTH PASTE,***For Removing Tartar, Whitening the Teeth, and Sweetening the Breath.*

PRICE, 6d. and 1s. per Pot.

MAY BE HAD OF WHOLESALE HOUSES THROUGHOUT THE GLOBE.

WHITE AND SOUND TEETH.

**JEWSBURY AND BROWN'S  
ORIENTAL TOOTH PASTE.**

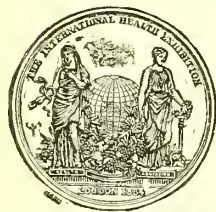
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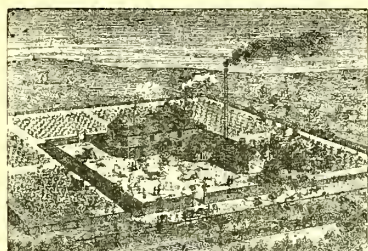
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Sold universally by Chemists and Perfumers, at 1s. 6d. and 2s. 6d.

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address cards, and directions for enclosure.

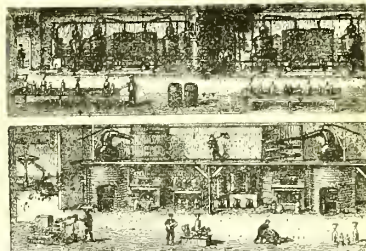






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STEAM DISTILLERIES:  
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Near WEST CROYDON, SURREY.



TRADE MARK.

GOLD MEDAL,



PARIS, 1889.

SILVER-GILT MEDAL,

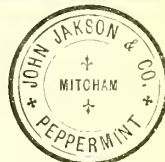


MELUN, 1880.

SILVER MEDAL,



ANTWERP, 1885.



TRADE MARK.

## JOHN JAKSON & CO., 17 Philpot Lane, LONDON, E.C.

Each Bottle must bear the above Trade Mark, under which we send from our Mitcham Distilleries only PURE Peppermint, Lavender and Camomile Oils. Each Bottle is labelled specifying that our Oils are Guaranteed PURE, and as such are INVOICED.

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Having visited the cultivation grounds and distilleries of Messrs. JOHN JAKSON & CO., at Mitcham, devoted to the production of Lavender, Peppermint, and other essential Oils, and having submitted samples of the Lavender and Peppermint Oils prepared by this firm to a careful physical and chemical examination, I can bear testimony to the very complete arrangements, with all modern appliances, which are here provided for distilling essential Oils, and to the excellent quality of the Oils so distilled.

Mitcham has been renowned throughout this, and part of the previous, century for the successful cultivation of Peppermint, Lavender, and other medicinal plants, from which oils of superior quality have always been produced; but at no previous period have the means for obtaining products of the highest quality been so successfully carried out as they have been since the introduction of Messrs. JOHN JAKSON & CO.'S system.

January 9, 1887.

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Encrius: Professor of Chemistry and Pharmacy to the Pharmaceutical Society of Great Britain.

Our Essences are put up in Bottles of  $\frac{1}{4}$ ,  $\frac{1}{2}$ , 1, 2 and 5 lbs.

# PARAFFINUM MOLLE, B.P.

DO NOT BE MISLED BY INFERIOR SUBSTITUTES.

**THE BEST IS**

Manufactured only in AMERICA by the BINGHAMTON OIL REFINING CO.

# PETROLINA.

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**PETROLINA** is specially valuable in Summer owing to its high melting point and absolute purity.

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FOR HAND AND POWER.

The Latest Invention of the Kind, and Acknowledged by All to be the BEST.

A necessary and valuable Machine for Manufacturing Druggists and Chemists, Perfumers, Bakers, Confectioners, Manufacturers of Baking Powder, Tooth Powder, Seidlitz Powders, Condition Powders, Snuff, &c., and for all who require a thorough Sifter and Mixer for Flour, Drugs, or Powders of any kind. These Machines are entirely new, are made strong, and will sift and mix as much in five minutes as other machines do in two hours. Every Wholesale Druggist should have one.

**A SAMPLE TESTIMONIAL FROM ONE WHO KNOWS:**

THE HUNTER SIFTER MANUFACTURING COMPANY:

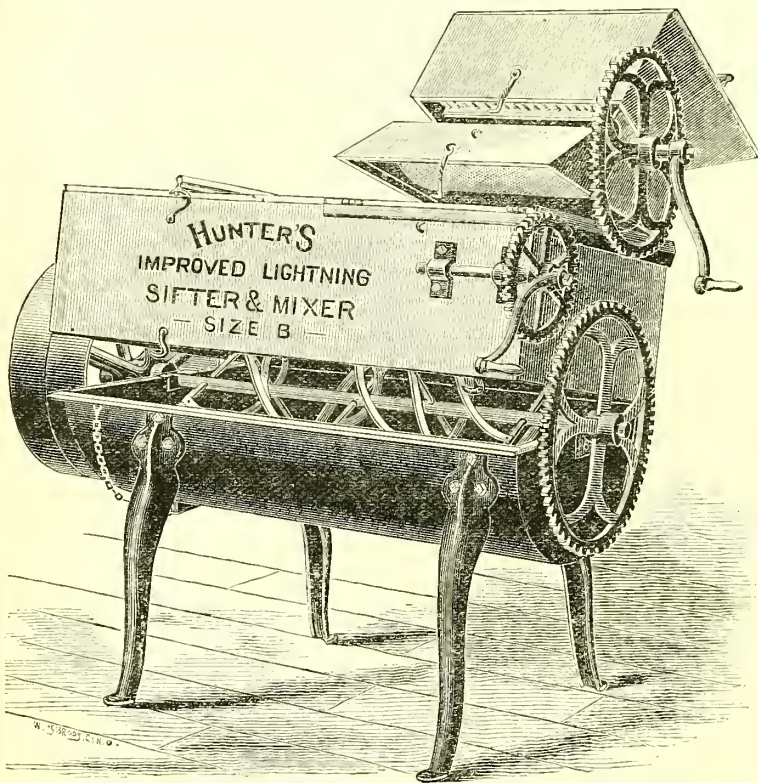
GENTLEMEN,—The combined Sifter and Mixer is the best machine I have ever seen for practically doing the work for which it was designed. I exhibited it before my class, and it has been receiving favourable comments from representatives from all parts of the country. Thanking you for your trouble, &c., I am, yours truly,

PHILADELPHIA COLLEGE OF PHARMACY,

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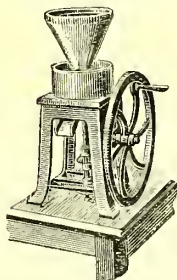
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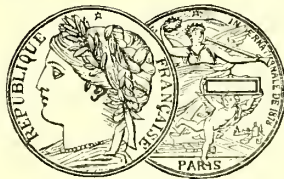
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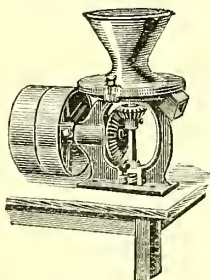
&c.



VIENNA, 1873.

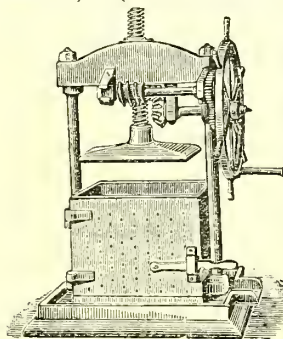
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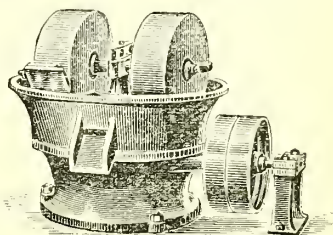
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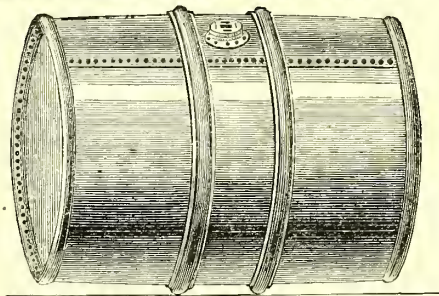
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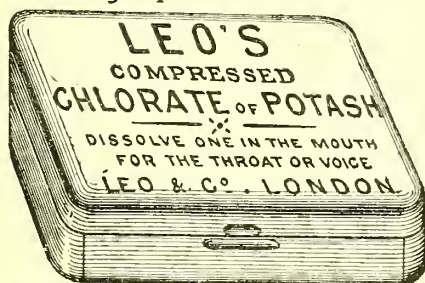
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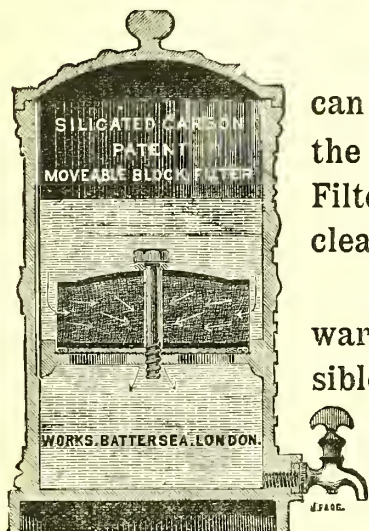
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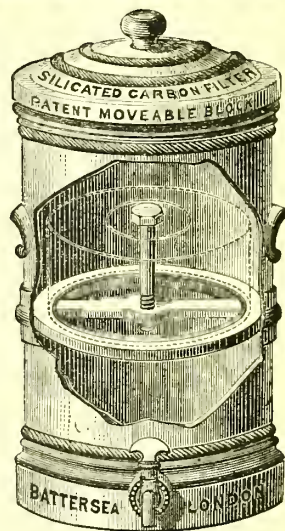
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A. 1 " 14/6 "	E. 8 " 52/- "
B. 2 " 21/- "	F. 12 " 70/- "
C. 4 " 32/- "	

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The Silicated Carbon Block can be instantly removed, leaving the whole of the interior of the Filter OPEN for inspection and cleansing.

The working parts are stoneware, and no corrosion is possible.

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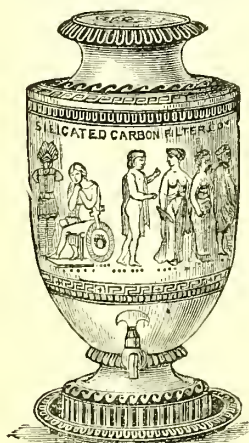
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No. 22. A. 2 gals. 35/- each
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Refrigerative Terra Cotta, do. do. :—
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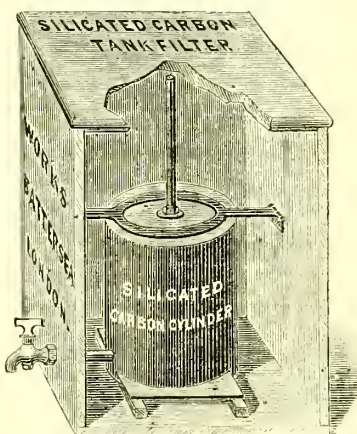
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No. 23.

Price, with Plated Tap, £3 10s. 0d.

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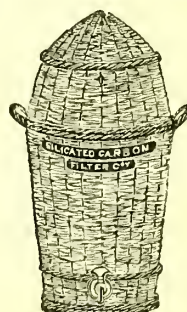


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$\frac{1}{2}$ gallon..	0	10	6 each.
1 " "	0	15	0 "
2 " "	1	2	0 "
4 " "	1	16	0 "
6 " "	2	8	0 "
8 " "	2	17	6 "
10 " "	3	8	0 "

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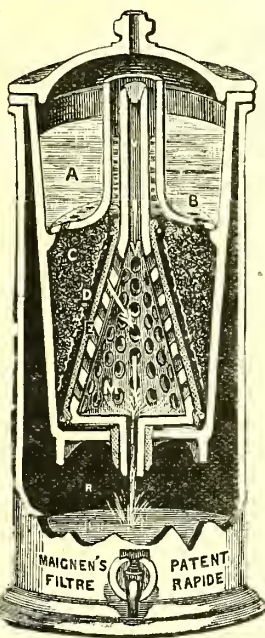
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tion, such as se-  
wage and lead.  
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The Author and  
Patentee,

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32 St Mary-at-  
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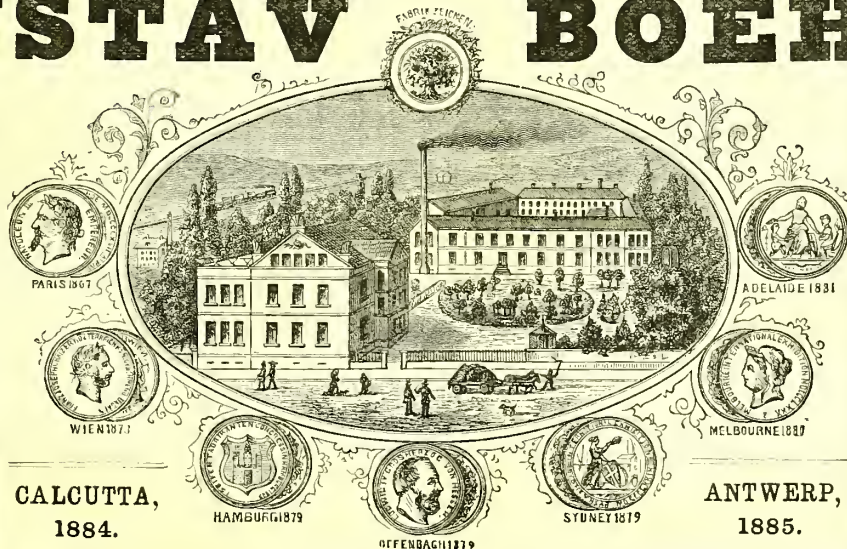
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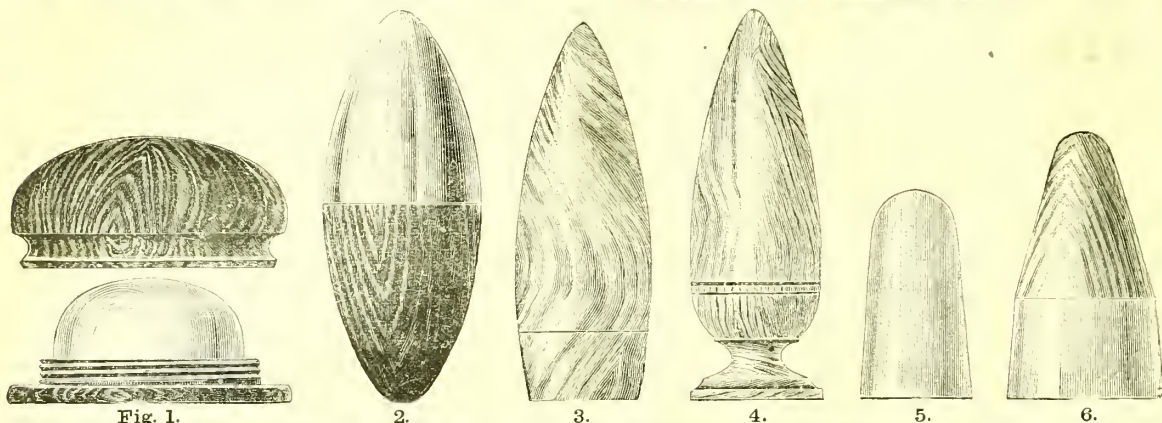


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	"	in Boxwood Cases	... ..	7/6
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	"	1 dozen, on Wire Stand	... ..	8/6
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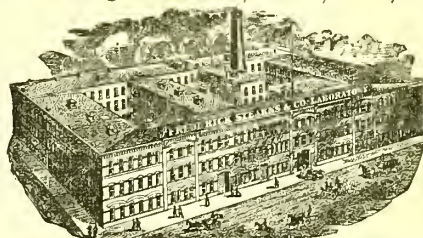
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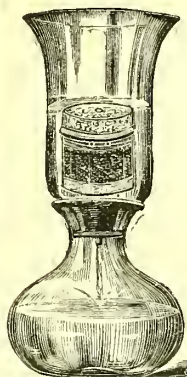
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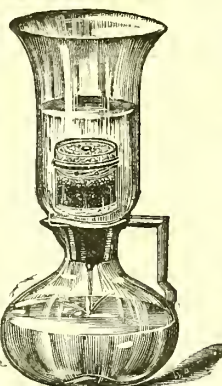
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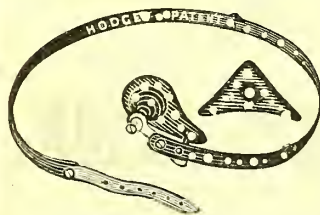
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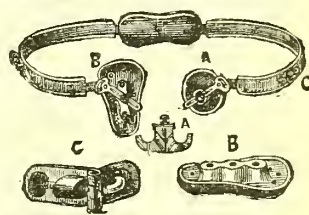


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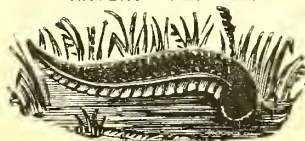


### IMPORTANT TO CHEMISTS.

**HOW TO MAKE THE SPECTACLE TRADE PAY!** Sell ONLY the **LUMINOUS CHEMICAL CRYSTAL SPECTACLES**. Sold only by Chemists. Give half profit, and, by our system of business, prices cannot be cut. Sole Agency granted for small towns. Our New **POCKET OPERA GLASS** and **TELESCOPE**, with Case, to retail at 1/3 each, 8/6 per dozen; sample half-dozen, with Show Card, post free, 4/9. A Great Novelty! Selling by Thousands!

**J. SCOTT & CO., Opticians, 52 West St., Sheffield.**

HAMBRO SPECKLED.



TRADE MARK  
REGISTERED.

All Orders by Post receive immediate attention.

### LEECHES!

Warranted Healthy. Wholesale and for Exportation. Direct from Marshes.

**FITCH & NOTTINGHAM,**  
LEECH BREEDERS,  
4 CANONBURY SQUARE, LONDON, N.



# HORSE, CATTLE, AND SHEEP MEDICINES.

BY ROYAL APPOINTMENT.



By Special Warrant,  
Dated 27th December, 1865.

## DAY, SON & HEWITT,

INVENTORS AND SOLE PROPRIETORS OF THE



By Special Warrant,  
Dated 10th February, 1866.

## "ORIGINAL" STOCK BREEDERS' MEDICINE CHESTS.

Containing the following Matchless Remedies for all Disorders in Horses, Cattle, Calves, Sheep, & Lambs:

### THE CHEMICAL EXTRACT.

For assuaging pain and inflammation in all wounds, saddle galls, strains, bruises, and swellings in horses; for pain after calving and lambing, and for swollen udders and sore feet.  $\frac{1}{4}$ -doz. box, 7s. 6d.

### THE RED DRENCH

Celebrated for inflammatory disorders; such as fevers, pleurisy, foot-and-mouth complaint, yellows, surfeit, and red water. Also for difficult calving and lambing. 3s. 6d. and 13s. per dozen box.

### THE GASEOUS FLUID.

Unmatched for colic or gripes and debility in horses, for colds, chills, shivering fits, and diarrhoea in cattle, calves, and sheep. 20s. per dozen box.

### THE CARMINATIVE CHALK.

A warm stomachic in severe diarrhoea or flux, by way of change of the gaseous fluid in great irritation of the bowels.  $\frac{1}{2}$ -dozen box, 10s.

Price of Chests, with "Guide to Farriery"—No. 1, £6/6/0; No. 2, £2/16/6; No. 4, £2/17/6 (for horses only). Carriage paid.

### THE RED PASTE BALLS AND RED POWDERS.

Invaluable for ill-conditioned horses and after hard hunting and driving. For coughs, colds, staring coat, itching, swollen legs, and want of strength. The Powder is to be given in the feed. 7s. 6d. per dozen.

### THE BLACK PHYSIC BALLS

Excellent for confined bowels and for worms in horses, but a bran mash should be first given. In bad cases of worms give a dose of Broncholine after the Ball. For cows and oxen, for stoppage of the bowels, give a dissolved Ball. 8s. per dozen.

### THE BRONCHOLINE.

Invaluable for husk, hoarse, or cough in cattle, calves, and sheep; for tapeworms, and worms in horses.  $\frac{1}{2}$ -dozen box, 7s. 6d.

### THE GASEODYNE.

Used as landanum in uncontrollable spasmodic pains in ewes lambing and perfectly safe.  $\frac{1}{4}$ -dozen box, 10s. 6d.

### THE ALCOHOLIC ETHER.

Used as sweet spirits of nitre in severe colds and shivering fits.  $\frac{1}{2}$ -dozen box, 7s. 6d.

Prepared only by DAY, SON & HEWITT, 22 DORSET STREET, LONDON, W.,  
And sold by all Wholesale Houses in London; Hood & Co., Melbourne; Kempthorne, Prosser & Co., Dunedin and Auckland; Fairthorne & Co. Launceston; Felton, Grimwade & Co., Sydney and Wellington; Dombrain & Co., Christchurch.

A LIBERAL DISCOUNT TO EXPORTERS, AND ALL PARTICULARS ON APPLICATION.

TRADE MARK



THE GOLDEN FLEECE.

# THE "LONDON" TOBACCO JUICE.

BY SPECIAL PERMISSION OF HER MAJESTY'S CUSTOMS FREE OF DUTY.

No. 1 contains 42 ozs. to the Gallon.

No. 2 contains 24 ozs. to the Gallon.

We confidently recommend No. 1 as being the Best and Cheapest Article in the Market. Also

## TOBACCO POWDER (DUTY FREE).

WHOLESALE FROM THE MANUFACTURERS—

CORRY, SOPER, FOWLER & COMPANY (LIM.),

18 FINSBURY STREET, E.C., AND SHAD THAMES, LONDON, S.E.

By Appointment to H.R.H.

## BIGG'S

the late Prince Consort.

# SHEEP AND LAMB DIPPING COMPOSITION,

For Destruction of Ticks, Lice, &c., and Prevention of Fly.

HAS NOW BEEN USED WITH GREATEST SUCCESS FOR NEARLY HALF A CENTURY.

PAMPHLETS ON APPLICATION.

LEICESTER HOUSE, GREAT DOVER STREET, BOROUGH, LONDON.

In any Town where no Agent exists Chemists are requested to apply.

WHOLESALE AGENTS FOR CANADA AND UNITED STATES—

EVANS, SONS & MASON, Limited, Montreal, Canada, and Rouse's Point, New York.



# St. Jacobs Oil



1886. IMPORTANT TO CHEMISTS. 1886.

THE GREAT CURE

## FOR RHEUMATISM!

"IT CONQUERS PAIN!"

We are now issuing a very large edition of original and highly entertaining advertising matter (relating to our popular remedy, St. Jacobs Oil), of which we are prepared to furnish liberal supplies to the Retail Trade of Great Britain, **FREE OF ALL EXPENSE, AND BEARING DEALERS' CARD.** Every dealer is earnestly requested to send us, at once, his Name and Address plainly written, that we may supply him at an early day.

**THE CHARLES A. VOGELER COMPANY, Sole Proprietors of**  
**St. Jacobs Oil, Great Britain Branch, 45 Farringdon Road, London,**  
England.

# EGYPTIAN LLOPHARS

We have just received a large consignment of these agreeable Flesh Rubbers and Bath Requisites of exceptional quality and value, which we are offering at

**6/-, 8/-, 10/-, and 12/- per dozen.**

A few extra large sizes (either cut or uncut), suited for specimens, **4/- per dozen.**

**WILLIAM TOOGOOD,** WHOLESALE GLASS BOTTLE MANUFACTURER  
 AND DRUGGISTS' SUNDRYMAN,

**35, 36, & 37 MOUNT STREET, GROSVENOR SQUARE, LONDON, W.**

WILLIAM TOOGOOD'S REVISED PRICE CURRENT of Glass Bottles, Measures, Earthenware Druggists' Sundries, &c., will be forwarded post free upon application.

**SPECIAL ATTENTION GIVEN TO SHIPPING ORDERS.**



# SPECIALITIES IN BOTTLES, BOXES, &c.

AYRTON & SAUNDERS beg to draw the attention of the Trade to the following Articles, which are of the best quality, and have a nice and distinctive appearance, and which, in the present close competition, present to Chemists and Druggists an opportunity of putting up and offering articles for which the Bottles, Boxes, &c., are specially designed, and which will be in a style different to what are now found on the counters of the various stores, &c., throughout the country.

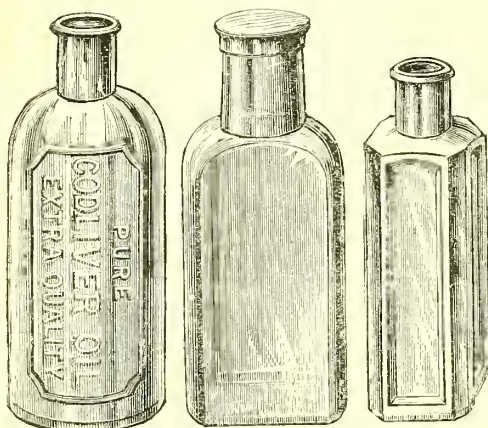


Fig. 1.

Fig. 2.

Fig. 3.

## CARBOLIC ACID BOTTLES.

Dark Blue Glass, Ribbed and Lettered, as fig. 6, 8 oz., 15/; 10 oz., 18/; 16 oz., 24/ per gross. We also supply Labels suitable for these, with full directions for use, prices 1/3 and 1/9 per 100.

## NEW CASTOR OIL BOTTLES.

Prices, 2 oz., 12/; 3 oz., 13/; 4 oz., 14/; 6 oz., 15/; 8 oz., 16/; 10 oz., 18/ per gross; these are Best Quality Quinine Tint Glass, three sides panelled, and one plain for label, as fig. 3; they are large-looking bottles, and easily filled.

## NEW COD LIVER OIL BOTTLES.

Prices—4 oz., 12/; 6 oz., 14/; 8 oz., 15/; 10 oz., 18/; 12 oz., 21/; 16 oz., 24/; 20 oz., 30/ per gross. Best Quality Quinine Tint Glass, Lettered, as fig. 1; the 6 oz. and 8 oz. are made extra heavy, and the whole series are large and attractive-looking bottles.

## CITRATE OF MAGNESIA BOTTLES.


Prices—4 oz., 24/; 6 oz., 27/; 8 oz., 30/; 10 oz., 33/; 12 oz., 36/; 16 oz., 42/ per gross. Best Quality White Flint Glass, panelled three sides, and one plain for label, as fig. 4. Can be supplied fitted with Boxwood Top Corks or Screw Glass Plugs at the same price; these Bottles show off the contents well, and look much larger than the ordinary kind.

## HAIR RESTORER BOTTLES.

Prices—6 oz., 13/; 8 oz., 15/; 10 oz., 18/ per gross. Dark Blue Glass, extra stout, panelled three sides, and lettered as fig. 5.

## MALT EXTRACT BOTTLES.

Prices—6 oz., 30/; 12 oz., 36/ per gross. These are fitted with Boxwood Topped Corks as fig. 2, and can be supplied Dark Green or Amber.

 We shall be glad to forward a Sample of any of the above on receipt of 6d. in Stamps to cover cost of packing and postage. Mixed Orders of any of the above, say 4 to 5 gross assorted, are delivered Carriage Paid. Special quotations given for Bottles of every description.

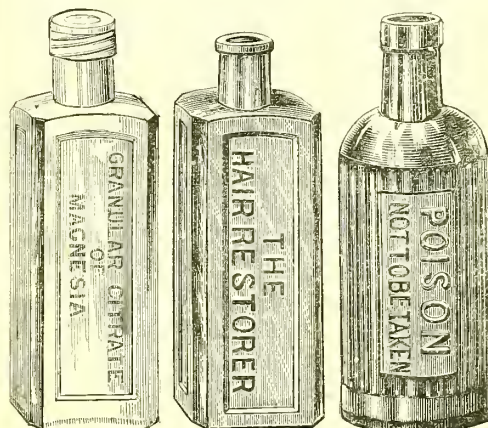
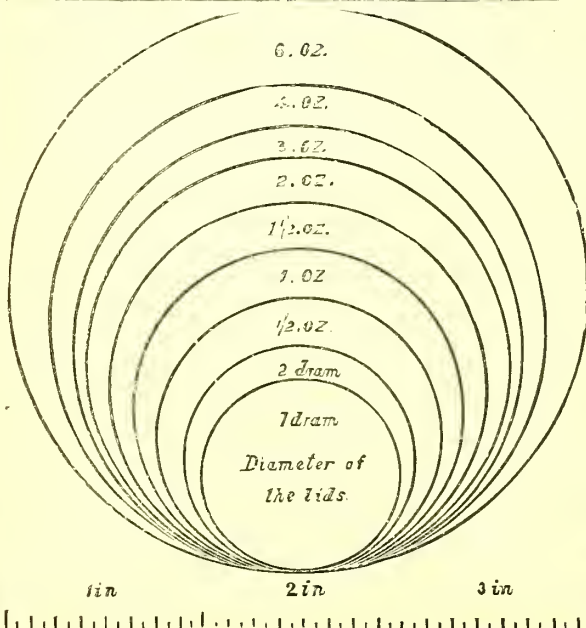


Fig. 4.

Fig. 5.

Fig. 6.



## “ENGLISH” WILLOW BOXES.

BEST QUALITY—EVERY BOX WARRANTED.

**GUARANTEED OUR OWN MAKE.**


	1dr.	2dr.	4oz.	1oz.	1 1/2oz.	2oz.	3oz.	4oz.	6oz.	1/2oz. to 2oz.
Deep .....	9d.	10d.	1/	1/2	1/4	1/6	2/2	2/6	3/	4/6
Cut down ..	9d.	9d.	11d.	1/2	1/4	1/6	2/	2/6	—	—

Country Sizes as Illustration.

## WILLOW BOXES, ORDINARY.

	1dr.	2dr.	4oz.	1oz.	1 1/2oz.	2oz.	3oz.	4oz.	1/2oz. to 2oz.
Deep .....	7d.	8d.	9d.	11d.	1/	1/4	2/	2/3	3/9
Cut down ..	7d.	8d.	9d.	9d.	1/	1/3	—	—	—

Samples sent on application. Special Terms to Large Buyers.

 Any Firm using Willow Boxes, and wanting something they can rely upon as being of good and uniform quality, will find it advantageous to write for Samples of our Brand.

**AYRTON & SAUNDERS,**  
149 DUKE ST., LIVERPOOL.





# OUR NEW CATALOGUE

OF

## DRUGGISTS' SUNDRIES, ETC.,

CONTAINING ABOUT

1,000 ILLUSTRATIONS, IS NOW READY,

AND WILL BE SENT POST FREE ON APPLICATION.

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**BOURNE, JOHNSON & LATIMER,**

34 &amp; 35 FURNIVAL STREET, LONDON, E.C.

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### NOTICE TO THE TRADE.

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Messrs. J. SANGER & SONS beg to inform their Customers and the Trade generally that the statement made by their late Traveller, Mr. Biffin, as to their declining Representation in the NORTH, MIDLANDS, WEST OF ENGLAND, and SOUTH WALES, IS ERRONEOUS. They purpose to replace him on the road as soon as they can and a suitable Representative.

---

489 OXFORD STREET, LONDON, W.

1,000 HANDBILLS.

### SPECIAL NOTICE.

1,000 HANDBILLS.

## HIMROD'S CURE FOR ASTHMA.

We can now supply 1,000 4to Handbills of superior quality, with name and address, and printed on one side only, with order for  $\frac{1}{2}$  dozen direct from

**J. SANGER & SONS, 489 OXFORD STREET, W.**

---

THE SPECIAL ATTENTION OF THE TRADE IS CALLED TO

## BENZINE COLLAS

Which is acknowledged on all hands to be the most reliable Preparation for removing Grease, Oil, Tar, Wax, or Paint from every description of Wearing Apparel or Household Stuffs. It neither injures the colour or texture, nor leaves any colour or stain. It is neatly got up, and is a most saleable article. Observe the word "COLLAS" on label and cap.

100 Handbills, with Name and Address, will be printed for any Chemist who gives an order for £1 WORTH of BENZINE COLLAS at the following prices, viz.:-

Size, 4s. per doz., subject to Discount. 1s. Size, 8s. per doz., subject to Discount. 1s. 6d. Size, 13s. 6d. per doz., subject to Discount.

SPECIAL QUOTATIONS TO SHIPPERS AND BUYERS OF 6 DOZEN OF ANY SIZE AND UPWARDS.

**J. SANGER & SONS, 489 Oxford St., London, W.**



# MENTHOL CONES—A1 BRAND.

No. 1.

ORDER AS  
**A1**  
BRAND.-6 Glass,  
3/6 per doz.

No. 2.

ORDER AS  
**A1**  
BRAND.-6 Willow Wood,  
3/6 per doz.

No. 4.

ORDER AS  
**A1**  
BRAND.1/- Menthol on Wood  
Mount, in Screw-  
capped Glass Bottle,  
6/9 per doz.

No. 5.

ORDER AS  
**A1**  
BRAND.1/- Bullet Shape  
Cone, in Screw-  
capped Bottle,  
6/9 per doz.

No. 6.

ORDER AS  
**A1**  
BRAND.1/- Boxwood,  
Pedestal Shape,  
5/- per doz.

No. 7.

ORDER AS  
**A1**  
BRAND.1/- Boxwood,  
Barrel Shape,  
6/- per doz.

No. 8.

ORDER AS  
**A1**  
BRAND.1/- Boxwood,  
Acorn Shape,  
6/- per doz.

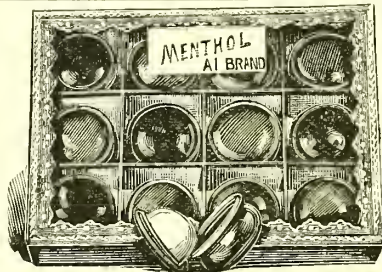
No. 12,  
Polished Sycamore,  
3/6 per doz.

Special Terms to Shippers  
and Large Buyers.

We still continue to  
give away an empty Show case  
with 2 doz. 1/ and 1 doz. 6d.  
sizes, or 5 doz. 6d. of our brand.  
The case is 11 in. long by 5 1/2 in.  
deep, and the lid lifts so that  
the goods can be sold from it,  
making it both a useful and at-  
tractive addition to a chemist's  
counter.

## GUARANTEED PURE JAPAN MENTHOL. NO STAMP REQUIRED.

Nos. 9 &amp; 9a.

1/- & 1/6  
Boxwood,  
Skittle Shape,  
6/- and 7/9  
per doz.

No. 17.—Quite New. Draughtsman Shape, Ebony  
and Boxwood alternate. The most pocketable  
shape in the market. 7/3 per dozen.

Nos. 11 &amp; 14.



-6 and 1/- Boxwood, Pyramid Shape, each in  
a separate cardboard box, 4/- and 6/6 per doz.

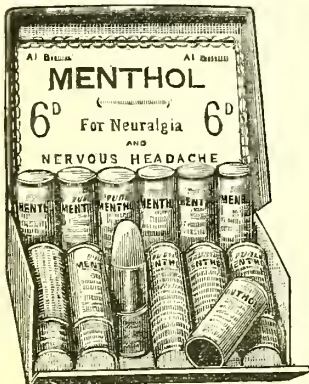
Ditto, 12 in hinged outer, without separate  
cardboard boxes, 3/6 and 6/3 per doz.

No. 13.—Vegetable Ivory  
Acorn or Skittle Shape, each  
in a separate box, 6/6 per doz.

No. 13a.—Ditto, 12 in a  
hinged outer, without separate  
cardboard boxes, 6/3 per  
doz.

5 per cent. discount for  
cash with order, if sent  
direct.

No. 15.



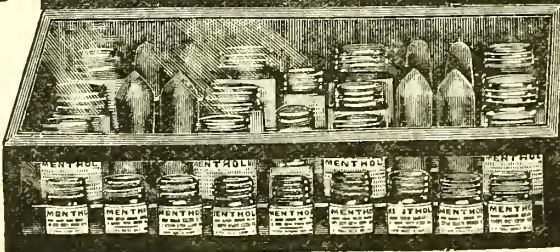
-6 Cardboard, pocketable, pretty,  
saleable, 3/4 per doz.

Write for NEW  
PRICE LIST, sent post free  
on application. Want of space  
prevents our drawing suffi-  
cient attention to Novelties,  
&c., but in Price List full  
particulars are given.

## MENTHOL, versus HOT WEATHER.

We have endeavoured to meet the difficulty so often expe-  
rienced in showing Menthol during the warm weather, by  
supplying a show-case, 8 in. long by 4 in. deep, fitted with  
Dummies, for the nominal charge of 2/. This we will give  
away with orders of 6 doz. By this means the Menthols  
themselves can be kept in the cool.

THE NEW INSTANTANEOUS  
HEAD-ACHE  
AND  
**A1 BRAND MENTHOL**  
NEURALGIA!  
IN VARIOUS SHAPES AND SIZES

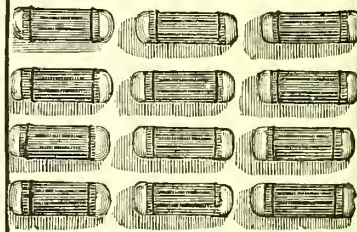


No. 10.

A1 Brand.

**MENTHOL**

A1 Brand.

6d. NEURALGIA & HEADACHE 6d.  
PENCIL.

-6, 12 on a card, 3/6 per doz.

The A1 Brand is put up in 19 dif-  
ferent forms, at prices to suit all cla-  
ses of trade. These prices we do not con-  
stantly vary, but endeavour to take a  
fair average of the market price of  
Menthol, and on that basis to supply  
at as low a price as possible com-  
patible with a good, reliable, and  
saleable article.

All shapes and sizes can be procured through any Wholesale House, or direct from

**J. G. SHIRLEY, PROPRIETOR A1 BRAND MENTHOL,**  
**30 PATERNOSTER SQUARE, LONDON, E.C.**

Telegraphic Address—"MENTHOL LONDON."